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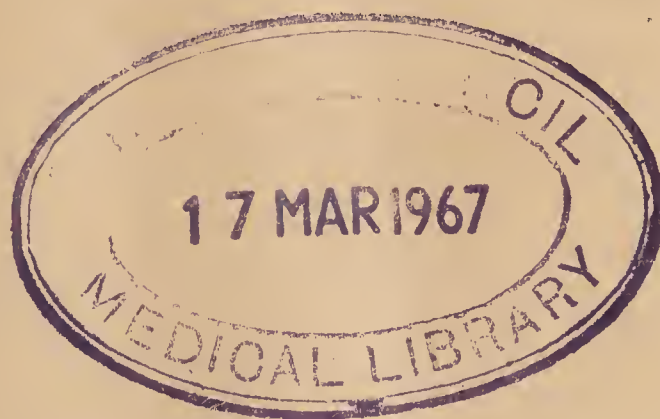


ANNUAL REPORT

OF THE

India, **DIRECTORATE GENERAL OF
HEALTH SERVICES**

1960



Issued by

**THE CENTRAL BUREAU OF HEALTH INTELLIGENCE
DIRECTORATE GENERAL OF HEALTH SERVICES
MINISTRY OF HEALTH GOVERNMENT OF INDIA
NEW DELHI-I**



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CHAPTER I

POPULATION, VITAL AND HEALTH STATISTICS

1. Population.
2. Vital and Health Statistics.

(1-14)

POPULATION

The last decennial census of population in India was taken on 1st March, 1951 and the population according to this census was of the order of 357 millions as against 313 millions in the last census of 1941. This enumerated population in 1951 excludes the State of Jammu & Kashmir and tribal areas of Assam, where no census operation could be conducted because of the peculiar conditions prevailing there. Thus there was a net increase in population of 14.7 per cent over the decade 1941-50. On an average there were 109 persons for every square km. of area.

When the population estimates in respect of the Jammu and Kashmir State and the tribal areas of Assam are added to the 1951 census enumerated population, the total population in India comes to 362 millions. Out of the enumerated population of 3,569 lakhs in the 1951 census, 2,950 lakhs of people were reported to be living in rural areas of the country and only 619 lakhs i.e., 17.3 per cent either in cities or towns. Thus the extent of the rural population in the country is itself of the greatest magnitude which requires immediate intelligent tackling of the situation.

As per 1951 census enumerated population the number of towns with a population of 1 lakh were 73. The number of people dependant on agriculture was about 69.7 per cent of the entire population in the country.

In the world population, India comes next to China (mainland), the enumerated population figures, as per 1953 census, of which are 58,26,03,417 (Males 29,75,53,518 and Females 27,66,52,422) with an area of 95,61,000 square km. as against an area of 32,81,144 square km. in the Union of India (excluding the State of Jammu and Kashmir). With an area of little more than 2 per cent of the total land area of the world. India has to support about 14 per cent of the world population. The population estimates and the density per square km. in respect of the various foreign countries and that of India are shown in Table 1.

It may be seen from this table that India is almost as densely populated as Hungary and Ceylon and less densely populated than Netherlands, Federal Republic of Germany, Japan. Besides, India is much more densely populated than South Africa, Ethiopia, Burma, France, U.A.R., Brazil, China, Australia, etc.

Growth of Population.—The extent to which the population in India is on the increase since census periods from 1901 to 1951, can very well be realised from the table given below :

Year	Population	Decennial per cent variation
1901.	236,281,245	..
1911.	252,122,410	+5.73
1921.	251,352,261	—0.31
1931.	279,015,498	+11.01
1941.	318,701,012	+14.22
1951.	361,129,622	+13.31

It is evident that there is a constant greater increase in population in the country during the census periods from 1921 to 1951. The per annum percentage increase for the decade 1941-51 works out to be 1.33 as against 1.10 for the world as a whole for the period 1940-50. This greater impulse in population might be due to the reason that mortality has still further decreased in India, while fertility, owing to improved survival and better health, is still capable of an upward trend. The mid-year population together with the rural and urban break-up for the year 1960 for each of the States/Union Territories in India is given in Table 2.

The mid-year population given in Table 2 is based upon the registration areas population in the country in between the intercensal period 1951 and 1961. Among the States and Union Territories for which the mid-year population is available, the Union Territory of Himachal Pradesh has got the maximum rural population. The minimum percentage of rural population is in the Union Territory of Delhi.

Age Distribution of Population.—As it has already been stated above that there is a tremendous growth of population going on in India over the census periods from 1921 to 1951, one of the salient reasons of which might be the better medical and curative facilities available in the country. Besides, age factor plays an important role for this increase in population as may be seen from the Sundburg's theory of population, particularly with reference to his youngest age-group of 0-14 years, according to which the proportion of this age-group per 1,000 persons should be around 400, 330 and 200 in progressive, stationary and regressive populations respectively. The following figures for all India, although not based on strictly comparable areas, emphasize that the population is still found to be progressive :

Year	Proportion per 1,000 of the population in three age-groups		
	0—14	15—49	50 and over
1911	388	503	109
1921	392	495	113
1931	383	505	112
1951	374	505	121

Another important feature of the population is the proportion of women in the reproductive age-group of 15-44 years in India and other foreign countries which may be seen as in the following table :

Countries	Years to which the population relate	Percentages of women population in age-group 15—44 years to the total corresponding population
1	2	3
Canada	1955 (Estimate)	43·07
U.S A.	1954 (Estimate)	42·43
France	1954 (Census)	38·55

1	2	3
England and Wales	1954 (Estimate)	40·12
Sweden	1953 (Estimate)	41·35
Japan	1954 (Estimate)	46·21
Morocco	1952 (Census)	45·92
Gautemala	1950 (Census)	45·28
Ceylon	1953 (Estimate)	46·45
China (Taiwan)	1953 (Estimate)	44·05
Philippines	1953 (Estimate)	47·81
India*	1951 (Census)	45·89

NOTE.—*Based on 10 per cent sample of the population which was further raised to total population of the entire country.

It will be observed that the percentage of women in age-group of 15-44 years is higher in the case of so called under-developed Asian and North-African countries and lower in the case of more advanced countries like France, England and Wales and U.S.A. etc.

VITAL AND HEALTH STATISTICS

The registration of vital events *viz.*, births, deaths, marriages etc., is itself of paramount importance in the present phase of the life of a man in the world especially in the under-developed country like India. The timely registration of vital events not only helps the Government in planning the future perspective of its resources for the betterment of the community but also alerts the various inter-connected agencies in taking out the preventive measures against the out break of the various infectious or other such diseases in the country. In India, although much progress in the reporting and subsequent registration of such events, has been made yet the problem of under-reporting of such events is of the greatest concern. The average birth and death rates in inter-censal decades estimated with the help of census returns and registered birth and death rates in India during the various decades in between the period 1901 to 1950 are presented in the sub-joined table :

Years	Birth Rates			Death Rates		
	Registered	Estimated	Degree of under re- gistration (in per cent)	Registered	Estimated	Degree of under re- gistration (in per cent)
1	2	3	4	5	6	7
1901—1910 .	37·0	48·1	23·0	*	42·6	*
1911—1920 .	37·0	49·2	24·8	34·0	43·6	30·0
1921—1930 .	34·0	46·4	26·7	26·0	36·3	28·4
1931—1940 .	34·0	45·2	24·8	23·0	31·2	26·3
1941—1950 .	28·0	39·9	29·8	20·0	27·4	27·0

NOTE.— *Information not available.

It is evident that the degree of under registration of births and deaths in India varies from 23 to 30 per cent. The degree of under registration, however, varies from State to State in the country depending upon the legal position and other factors prevalent in a particular State or Union Territory. The other reasons for the recent deterioration in registration of vital events is the break down of the inspection machinery. There are specific instructions in the Departmental Manual that officers of police and revenue departments, while on tour, should spot check registration books. In Punjab there are some whole-some detailed instructions on the precise action to be taken. They are reproduced below :—

“Tehsildars and naib-Tehsildars, when on tour, should examine village birth and death registers, and, when the numbers entered are suspiciously small, should make inquiries with a view to finding out whether the registers are accurately kept up or not. When it is proved to their satisfaction that the registers are defective, they should warn or punish the watchman in fault, as may seem necessary. Kanungos should also occasionally test these registers when on tour. Tehsildars and naib-Tehsildars should submit each quarter to the Deputy Commissioner of the District a list of villages in which the registers were proved to be defective stating the action taken in each case; the Deputy Commissioner should summarize the list and forward to the Director of Public Health, Punjab, the statement giving the district totals only. The statement for the last quarter of the year should not be submitted as the annual report will furnish the necessary information.”

Extension of Registration Areas—There was no extension of registration areas during the year covered by this report. The following areas in the different States continued to be without any arrangement for registration of births and deaths :—

States	Areas not under registration	Their population as in 1961 Census
1. Andhra Pradesh	Srikakulam and Visakhapatnam Agency Areas.	2,67,619
2. Orissa	Ganjam and Koraput districts.	14,86,707 (Estimated)
3. Rajasthan	Whole State except 119 towns with a population of 2,971 thousand as in 1961 Census.	1,71,84,602
4. West Bengal	Port, Fort, Canal and Maidan areas of Calcutta.	30,110 (Estimated)

There is no registration in Manipur (except in 5 Police thanas), Tripura, Nagaland, NEFA, Laccadive, Minicoy and Amindive Islands which together account for a population of 2,109 thousand as in 1961 Census. All told, a population of 21 millions out of 439 millions as in 1961 Census is not under registration. The four-fifths of the Kerala State has compulsory registration of births and deaths.

In the remaining one-fifth of the Kerala State, information on births and deaths is collected through agency of revenue and health staff. The State of Jammu and Kashmir has a system of registration of births and deaths but it has not yet been possible to get any annual vital statistics for the State as a whole. However, the weekly figures of births and deaths in Srinagar and Jammu Towns with some regularity have been arranged, but even they are incomplete. There was no improvement in the registration of vital events in the State of Rajasthan and the Panchayats have not taken up registration of births and deaths in their areas so far. Although some clerical staff has been provided to handle vital statistical data from certain towns but the larger question of registration in the rural and urban areas of the state remains standstill.

Birth, Death and Infant Mortality Rates—Table 3 gives the registered birth, death and infant death rates in the various States/ Union Territories of India separately for rural and urban areas for the years 1957 to 1960. The registration is not of the same order of accuracy or completeness in all the States. It can be seen from the said table that the State of Punjab recorded the highest birth rate (35.7) and Assam the least birth rate (6.8) during the year 1960. During the years 1957 to 1959 also the State of Punjab recorded the maximum birth rate while the Assam State recorded the least birth rate. In comparison with the year 1959, the birth rates have slightly decreased in many of the States for which the information is available and shown in the said table. The highest birth rate recorded in Punjab State may be partly due to the high degree of accuracy in the registration system and partly due to the extensive medical facilities available in the State. In general in many of the States the birth rates in the urban areas are more than in rural areas indicating that the registration in urban areas is more efficient and effective than in rural areas. The maximum death rate (23.2) was recorded in the Union Territory of Pondicherry and minimum death rate (5.0) in the State of Bihar during the year 1960. The following table indicates the estimated birth rates, death rates and infant death rates for the different States during the year 1960 :—

States	Birth Rates	Death Rates	Infant Death Rates
1	2	3	4
1. Andhra Pradesh	31.8	16.5	111
2. Assam	40.3	14.7	184
3. Bihar	33.6	12.2	145
4. Gujarat	34.1	14.2	89
5. Jammu and Kashmir	30.8	23.2	147
6. Kerala	39.5	17.2	71
7. Madras	36.8	15.7	109
8. Madhya Pradesh	39.5	13.4	175
9. Maharashtra	32.6	15.5	109

1	2	3	4
10. Mysore	38.9	15.0	94
11. Orissa	37.0	16.4	159
12. Punjab	38.3	13.4	104
13. Rajasthan	40.6	19.1	117
14. Uttar Pradesh	36.9	17.7	186
15. West Bengal	36.4	13.0	114
INDIA	36.3	15.7	134

The All-India birth rate (36.3), death rate (15.7) and infant death rate (134) have been calculated from the State rates by weighting them with respective population of the State (births in the case of infant deaths).

Seasonal variation of births/deaths is a well known phenomenon observed for a long time. There is a seasonal pattern characteristic of each area and each State which persists from year to year. During the year 1960, the months in which the births/deaths registered were maximum and minimum are given separately for different States in the sub-joined table :—

States	Births		Deaths	
	Maximum	Minimum	Maximum	Minimum
1	2	3	4	5
1. Andhra Pradesh	August	February	August	May
2. Assam	December	July	April	July
3. Bihar	January	June	September	February
4. Gujarat	August	February	August	December
5. Jammu and Kashmir	*	*	*	*
6. Kerala	December	April	December	February
7. Madhya Pradesh	August	March	August	February
8. Madras	October	February	December	April
9. Maharashtra	September	February	August	February
10. Mysore	August	February	August	February
11. Orissa	July	February	August	February
12. Punjab	October	May	June	February
13. Rajasthan	September	February	May	October
14. Uttar Pradesh	August	April	August	February
15. West Bengal	December	July	August	March

1	2	3	4	5
<i>Union Territories</i>				
1. Andaman & Nicobar Islands.	January	May	January	May
2. Delhi . . .	August	April	June	April
3. Himachal Pradesh .	May	September	May	November
4. Manipur . . .	*	*	*	*
5. Pondicherry . .	August	February	November	September
6. Tripura . . .	*	*	*	*

NOTE.— *Information not available.

During the year 1960, the Infant Mortality Rate was recorded maximum in the State of Orissa (135) and minimum in the Andaman and Nicobar Islands (27.9). From the Table 3 it can be seen that in many of the States from which the information is available, the Infant Mortality Rate shows a decreasing trend over the period from 1957 to 1960. This decreasing trend in the Infant Mortality Rates in the various States/Union Territories may be attributed to the extensive medical and health services available in the country for the timely checking up of the diseases, if any, either at the time of delivery or after birth.

Infant mortality by period of life—There is a special interest in the statistics of infant deaths by their period of life, as the classification broadly conforms to the nature of causative factors. The following table shows the proportionate infant deaths in 1960 in the four periods, viz., (I) within 1 week of birth, (II) 1 week to 1 month, (III) 1 month to 6 months, (IV) 6 months to 12 months of birth giving the average for 1956-59 and 1960 separately :—

States	1956—59				1960			
	I	II	III	IV	I	II	III	IV
1	2	3	4	5	6	7	8	9
1. Andhra Pradesh . . .	29	28	24	29	27	17	28	28
2. Assam	18	14	38	30	15	14	39	32
3. Bihar	30	14	38	18	30	18	29	23
4. Gujarat	24	19	27	30	15	16	28	41
5. Madras	17	28	24	31	15	30	24	31
6. Maharashtra . . .	24	19	27	30	29	20	24	27
7. Mysore	†	48*	28	24	†	48*	29	23

	1	2	3	4	5	6	7	8	9
8. Orissa	25	22	33	20	23	23	34	20	
9. Punjab	25	22	27	26	24	22	27	27	
10. Uttar Pradesh	†	†	†	†	19	15	32	34	
11. West Bengal	27	21	33	19	25	19	35	21	
INDIA	24	21	28	27	22	21	28	29	

NOTE.—I.—Under one week.

II.—One week to one month.

III.—1 month to 6 months.

IV.—6 months to 12 months.

*Includes proportion in period I also.

†Information not available.

It is evident from the above table that the proportions in the various periods of life vary round a certain broad pattern represented by all India figures. The number of deaths in the four periods is practically equal indicating that these four periods have a special significance. Neo-natal mortality forms about 45 per cent of the total, out of which 25 per cent occur under 1 week. The remaining infant deaths are divided more or less equally between the periods 1-6 months and 6-12 months.

It can also be seen from the said table that the distribution of deaths, at all India level, among the various age-groups, during the years 1956-59 and 1960 do not differ much.

Infant deaths by causes—Data on this point are not available according to a uniform list. An attempt should be made to collect them on a minimum common list. The data, as they are, clearly bring out that the most important causes are classifiable under the heads (a) infantile debility and malnutrition covering cases of marasmus, rickets and anaemia, (b) convulsions, (c) prematurity and congenital malformation, (d) respiratory diseases of which the predominant ones are bronchitis and pneumonia, and (e) diarrhoea, colitis, enteritis and gastroenteritis. The following table shows the proportion of deaths under each per 1,000 infant deaths in 1960. Group (f) gives the proportion for certain diseases, which are of special importance for infants.

Group	Cause	(Proportion per 1,000 deaths)			
		Bombay	Madras	Calcutta	Nagpur
1	2	3	4	5	6
(a)	(i) Infantile debility . . . . .	..	..	15	..
	(ii) Malnutrition . . . . .	..	303	..	7
	(iii) Anaemia . . . . .	..	..	..	26
	(iv) Marasmus . . . . .	..	..	35	..
	(v) Rickets	20	..	..	3

1	2	3	4	5	6
(b)	(i) Convulsions	8	15	..	14
(c)	(i) Prematurity	198	..	..	402
	(ii) Congenital malformations	238	..	227	31
(d)	(i) Respiratory diseases . . . . .	..	292	232	..
	(ii) Pneumonia	289	..	..	65
(e)	(i) Bowel complaints . . . . .	..	..	186	79
	(ii) Diarrhoea	114	85	..	7
	(iii) Colitis . . . . .	..	..	..	2
	(iv) Enteritis . . . . .	..	..	..	68
	(v) Gastroenteritis . . . . .	..	..	..	2
	(vi) Dysentery	4	57	..	..
(f)	(i) Birth injury . . . . .	..	..	..	1
	(ii) Postnatal asphyxia and atelec- tasis. . . . .	..	..	..	62
	(iii) Tetanus . . . . .	..	..	16	45
	(iv) Congenital Syphilis	2	..	..	3
	(v) Tuberculosis	11	..	..	23
	(vi) Smallpox	24	13	..	..
	(vii) Measles	7	..	..	..
	(viii) Diphtheria	4	2	..	..
	(ix) Whooping cough	2	..	..	..
	(x) Poliomyelitis	1	..	..	..

The picture of causes of infant mortality brought out above agrees closely with that shown by Ceylon and Thailand, for which data are available. This seems to point to the essential similarity of the health problems of South East Asian countries. Table 4 shows the proportion of deaths per 1,000 total infant deaths for the first five leading causes in terms of B-List titles in these countries and in the special areas in India under study.

Proportionate Deaths—The country still suffers from heavy infant and child mortality. The proportion of infant deaths is only slightly higher than that for pre-school children aged 1 to 4. The following table indicates the percentage distribution of registered deaths in the various age-groups in the general population during 1960. The figures may be affected by differential recording of deaths:

in different age groups, but the distortion on this account is not likely to be so great as to seriously misrepresent the broad picture.

States	Age in years					
	Under 1	1—4	5—14	15—40	40—60	60+
1	2	3	4	5	6	7
1. Andhra Pradesh . . .	18.0	16.2	6.3	14.6	14.2	30.7
2. Delhi	25.9	17.6	7.1	12.9	12.1	24.4
3. Gujarat	19.9	29.0	6.6	12.2	10.5	21.8
4. Kerala	13.7	15.4	7.1	12.0	15.1	36.7
5. Madhya Pradesh . . .	21.6	14.5	11.9	18.7	18.8	14.5
6. Madras	20.2	20.4	5.5	13.3	13.4	27.2
7. Maharashtra	22.2	21.4	7.4	14.5	12.7	21.8
8. Mysore	16.4	21.6	7.6	14.8	13.4	26.2
9. Orissa	24.6	15.2	9.5	17.9	16.7	16.1
10. Punjab	27.4	19.0	6.3	10.7	13.1	23.5
11. Uttar Pradesh . . .	16.3	17.4	13.0	19.5	19.6	14.2
12. West Bengal	19.7	14.6	6.7	15.1	16.9	27.0
13. Assam	21.6	13.9	13.2	22.3	16.6	12.4
14. Bihar	18.4	19.3	7.0	14.8	15.0	25.5
15. Himachal Pradesh . .	16.2	13.6	12.6	19.3	22.3	16.0
16. Andaman & Nicobar Islands	10.6	20.1	16.4	23.0	17.7	12.2
INDIA	20.0	18.7	8.5	15.4	15.3	22.1

Percentage Births by Age of Mother—The following table shows the percentage of births registered in 1960 in the various maternal ages. It can be seen that the highest proportion of births is registered in age group 20-24, and 25-29. The proportion in the age group 20-24 is slightly more than in the age group 25-29. The proportions in the age groups i.e., 15-19 and 30-34 are very much lower. Generally the proportion in the age group 15-19 is less than that in 30-34. There is a sharp decline in the age groups 35-39 and 40-44. In the

ages 45 and over the proportionate births are almost negligible indicating that for practical purposes the reproductive period of an Indian women is 15-44.

City/State	Birth Rate	Age-groups						
		15-19	20-24	25-29	30-34	35-39	40-44	45+
1	2	3	4	5	6	7	8	9
1. Ahmedabad . . .	37.6	6.6	27.7	29.6	21.1	11.1	3.6	0.3
2. Bombay . . .	26.4	6.1	34.1	33.2	19.2	6.3	1.0	0.1
3. Calcutta . . .	24.6	12.3	25.4	33.0	20.0	8.0	1.3	..
4. Delhi . . .	29.3	10.1	33.3	29.5	17.3	7.3	2.1	0.4
5. Hyderabad . . .	23.2	14.6	29.0	29.4	15.8	7.5	2.5	1.2
6. Madras City . . .	42.5	15.2	31.0	30.7	15.5	6.5	1.0	0.1
7. Andhra Pradesh . . .	36.3	18.2	29.5	26.7	6.5	6.6	2.3	0.2
8. Bihar . . .	14.5	11.2	27.2	29.7	18.1	9.9	2.8	1.1
9. Gujarat . . .	36.0	6.6	29.8	28.8	20.6	10.7	3.2	0.3
10. Kerala . . .	44.2	10.7	28.2	26.8	19.4	11.7	2.8	0.4
11. Madhya Pradesh (1959) . . .	30.1	7.8	27.4	24.4	26.6	11.9	1.6	0.3
12. Madras . . .	48.5	15.6	30.6	27.0	15.6	9.0	2.1	0.1
13. Maharashtra . . .	32.3	11.9	29.9	27.7	19.8	8.6	1.9	0.2
14. Mysore . . .	35.1	12.3	29.8	29.9	17.6	8.3	1.8	0.3
15. Orissa . . .	50.5	18.3	30.2	26.0	17.4	6.5	1.5	0.1
16. Punjab . . .	32.5	7.3	27.6	31.0	20.2	10.8	2.5	0.6
17. West Bengal . . .	11.2	12.7	28.5	27.0	17.8	9.8	4.0	0.2
18. Indian Cities (1960) . . .	32.9	11.6	30.1	28.4	18.2	9.0	2.4	0.3
19. Indian Cities (1959) . . .	..	11.4	29.8	28.3	18.4	9.3	2.4	0.4
20. 1948 Study . . .	..	13.0	29.3	26.4	17.8	9.2	3.8	0.5

The table below gives the percentage births by age of mother for some countries in the world. Indian pattern seems to be not greatly different from that shown by industrialised countries, having a high fertility level.

Percentage Births by Age of Mother

Country	Year	Birth Rate	Age-groups							
			20	20-24	25-29	30-34	35-39	40-44	45+	
1	2	3	4	5	6	7	8	9	10	
1. U.S.A.	1957	25.0	13.1	32.0	26.9	17.2	8.6	2.1	0.1	
2. U.K.	1957	16.5	5.1	29.9	32.8	19.7	9.8	2.5	0.2	
3. France	1958	18.2	2.9	27.5	34.5	21.5	11.1	2.2	0.3	
4. Italy	1957	18.1	3.7	23.2	32.6	24.2	11.9	4.0	0.4	
5. Austria	1958	17.1	6.7	24.4	29.5	23.4	13.1	2.6	0.3	
6. Denmark	1957	16.8	9.0	32.4	28.8	18.1	8.9	2.6	0.2	
7. Australia	1958	22.6	5.9	29.5	31.1	20.5	10.1	2.7	0.2	
8. Canada	1958	27.6	7.9	28.2	29.0	20.1	11.3	3.3	0.2	
9. Japan	1957	17.2	1.2	27.3	43.0	20.3	6.7	1.4	0.1	
10. Indonesia	1951	29.7*	5.8	26.7	32.7	20.5	11.2	2.8	0.3	
11. Chile	1956	34.2	10.6	25.6	28.0	18.3	11.5	5.0	1.0	
12. Paraguay	1957	46.6*	12.1	26.9	26.3	17.0	12.1	4.4	1.2	
13. Ecuador	1957	47.1	10.2	29.3	27.5	16.3	11.6	3.9	1.2	
14. Thailand	1953	37.4	7.3	28.5	27.5	18.0	12.4	5.3	1.0	
15. Philippines	1957	22.0	8.1	29.6	27.7	17.3	12.3	4.1	0.9	
16. Puerto Rico	1957	33.3	15.6	33.2	22.7	14.0	10.4	3.4	0.7	
17. Egypt	1956	47.6	3.5	19.0	33.3	26.8	13.8	2.9	0.7	

NOTE.—*Relates to 1950—54.

Except in U.S.A. and Denmark, the proportions in the group of Western countries and Australia are higher in 25-29 than in 20-24. The proportion of births in 30-34 is also higher compared to that in the case of India. Births are very much more in 25-29 in Japan. The percentage in ages below 20 is lower than that in the case of Indian pattern due to a higher age at marriage. The distribution of U.S.A., Denmark, and the group of countries having a higher birth rate e.g., Chile, Paraguay, Ecuador, Thailand, Philippines and Puerto Rico is generally similar to the Indian pattern. In Egypt a very low percentage is in the age group 15-19. There is a peak in the age group 25-29 and a high percentage in 30-34.

Percentage Births by Age of Mother—A discussion of distribution of births by age of mother does not give a complete picture of the factors involved. It does not indicate whether the change in birth rate occurred due to variations in the frequency of large families or due to change in the proportion of young mothers with low parity

births. For an understanding of this aspect of the problem, distribution of annual births by their order need be studied. This distribution is a true picture of the changes in the average fertility history of married women in the reproductive ages.

Table 5 presents the proportionate distribution of births of various orders registered in 1959 and 1960. It can be seen from the above table that in India, the general level of proportion of first order birth is around 20 per cent., of second births 17-18 per cent. and of third births 15-16 per cent. making a total of about 55 per cent. for the first three births. The fourth and the fifth order births account for 13-14 per cent. and 10-11 per cent. respectively, both making up for another 25 per cent. Thus, nearly 20 per cent. of births are of order 6 or more. There was little change in the percentage distribution between 1959 and 1960. There was a minor increase in the proportion of first order births accompanied by a slight decrease in the proportion of higher order births, compared to the results of 1948 study there is a small but distinct decrease in the proportions of the first three order births accompanied by an increase in the proportions of higher births except 10th and over. This suggests a slightly higher birth rate level either due to a higher proportion of married women at higher ages or slightly increased fertility.

Percentage births by their order in foreign countries.—Table 6 shows the proportionate distribution of the various birth orders in the same set of foreign countries. The percentage distribution of births by age of mother in India does not present such great contrasts as are indicated by the birth order distribution in the said table. It shows that in the first ten countries, which have a low birth rate, first to third order births account for 75 to 80 per cent. of the total with fourth and fifth births making up another 10-15 per cent. Thus, births of order six and over form only 5-10 per cent. of the total compared with India, the proportion of first three births are much higher. In these countries, there is a considerable variation in the proportion of 1st births but the range of variation is reduced successfully in the second and third order births.

Expectation of life at birth—The expectation of life at birth for male and female separately during the various Census years is shown in the following sub-joined table :

Period	Expectation of life at birth	
	Male	Female
1881	23·67	25·68
1881—1890	24·59	25·54
1891—1900	23·63	23·96
1901—1910	22·59	23·31
1911—1920	19·42	20·91
1921—1930	26·91	26·56
1931—1940	32·09	31·37
1941—1950	32·45	31·66

It can be seen from the above statement that expectation of life at birth for female was more than that for male from 1881 to 1921, onwards it is less than that for males. Since 1881, both for male and female the expectation of life shows a steady decrease.

The expectation of life at birth for the population in the various zones in India based on 1941-1950. Census data as at 1951 is given below :

Zones	Expectation of life at birth		
	Male	Female	Both sexes
Central	25·55	25·69	25·62
Eastern	28·15	27·41	27·72
Western	31·33	30·93	31·14
Northern	34·00	34·36	34·17
Southern	36·22	37·23	36·71

The Central Statistical Organisation, Cabinet Secretariat, Government of India, have also given the following estimates for expectation of life at birth :—

Period	Expectation of life at birth	
	Male	Female
1951—56	37·76	37·49
1956—61	41·68	42·06
1961—66	48·40	49·82
1966—71	51·43	52·88

Levels of Infant and Maternal Mortalities—There is a considerable demographic and public health interest in reliable information on the levels of infant and maternal mortalities but unfortunately registration records are particularly deficient in this matter. Primarily to focus attention on the incredulously large variations in the infant and maternal mortalities in similar areas within the same State, Tables 7 and 8 present the distribution of towns, each with population of 30,000 and over, according to the registered infant death and maternal death rates respectively.

CHAPTER II

CONTROL AND ERADICATION OF COMMUNICABLE DISEASES

1. Smallpox.
2. Plague.
3. Cholera.
4. Dysentery and Diarrhoea.
5. Malaria.
6. Respiratory Diseases and other Notifiable Diseases.
7. Venereal Diseases.
8. Leprosy.
9. Blindness and Eye Diseases.
10. Tuberculosis.

(15-81)

SMALLPOX

Smallpox is one of the six quarantinable diseases and is notifiable throughout the country. It takes annually a heavy toll of deaths as is widely spread throughout the country. During the period covered by this report 24,587 deaths due to Smallpox were reported from all parts of the country giving a death rate of 0.064 per mille of population. The corresponding death rate in the preceding year was 0.06 per mille of population. The Union Territories of Andaman & Nicobar Islands, Laccadive Islands and Manipur were free from the disease during the period under report. Information from the Jammu & Kashmir State was not received during the year under report.

It is observed on the basis of the available information that the incidence of the disease is very much prevalent among children in between the age groups under 1 year and 1-6 years. But this behaviour of the disease is slightly shifting now towards the elder groups of the population. The following table presents the comparison of the percentage of mortality due to Smallpox occurred in persons having more than 10 years of age during the years 1950 and 1960.

States/Union Territories	Percentage of small- pox deaths above 10 years of age during the year 1950	Percentage of Small- pox deaths above 10 years of age during the year 1960
1	2	3
1. Andhra Pradesh . . . . .	..	55.8
2. Assam	96.77	53.0
3. Bihar	68.55	94.9
4. Gujarat . . . . .	..	23.2
5. Jammu & Kashmir . . . . .	..	..
6. Kerala . . . . .	..	67.1
7. Madhya Pradesh	19.93	34.4
8. Madras	43.89	31.1
9. Maharashtra . . . . .	..	38.7
10. Mysore . . . . .	..	17.7

1	2	3
11. Orissa	76.34	78.8
12. Punjab	19.56	22.0
13. Rajasthan . . . . .	..	..
14. Uttar Pradesh	54.54	47.4
15. West Bengal	53.03	42.5
16. Andaman and Nicobar Islands . . . . .	..	—
17. Delhi	33.87	45.1
18. Himachal Pradesh . . . . .	..	—
19. Manipur . . . . .	..	..
20. Pondicherry . . . . .	..	25.8
21. Tripura . . . . .	..	..
TOTAL	50.1	43.7

NOTE.—..Information not available.

— Nil information.

In view of the foregoing information it may easily be concluded that nearly 50 per cent. of Smallpox deaths occur in persons having more than 10 years of age and rest 50 per cent. of Smallpox deaths occur in children having ages below 10 years of age.

Table 9 gives the death rates from Smallpox in India for the years 1900 to 1960. It may be emphasized here that the death rates from Smallpox from year to year are not strictly comparable owing to their coverage which is not uniform from year to year. However, the figures will not cease to depict the degree of incidence of the disease from one year to another.

From the figures as shown in Table 9 it is evident that the death rates from Smallpox in India had a periodic flow of the incidence of the disease over the period from 1900 to 1960. The incidence of the disease attained normally peaks after every 5 to 7 years cycle.

The position regarding the prevalent of Smallpox and the preventive measures undertaken to combat the disease in the various States of India during the year 1960 is detailed below :—

Andhra Pradesh—The infection of Smallpox, which was prevalent during the year 1959, continued during the year 1960 and was at its peak during April and closely followed during May. Since then

there was a decline in the incidence from month to month and the minimum incidence was reported during October, and continued to be sporadic during November and December, the incidence was mainly reported from Visakhapatnam, Guntur, Nellore and Chittoor districts. In the remaining districts the incidence was either in mild or in sporadic form. There were in all 606 deaths due to Smallpox during the period covered by this report.

Prompt and effective preventive and control measures were carried out by the Public Health Staff to bring the epidemic under control. Disinfection of infected premises and articles, mass vaccinations, isolation and treatment of Smallpox cases, wherever possible, had been done. During the year under report 10,56,394 primary and 40,63,683 re-vaccinations were performed.

Assam—A total of 253 deaths were reported out of which 36 were among the children under one year of age and 83 in between the age group of 1-10 years.

Bihar—The districts of Shahabad, Saran, Muzaffarpur, Darbhanga, Purnea, Hazaribagh, Palamau, Dhanbad, Singhbhum and Ranchi in the Bihar State were affected with Smallpox. The incidence was high in the districts of Hazaribagh, Ranchi and Purnea. A total of 1,718 deaths from Smallpox were recorded during the year under report. Out of these deaths 17 were among the infants and 71 among the children in the age group of 1-10 years.

Gujarat—All the districts were more or less affected with Smallpox recording a total of 1,548 deaths during the year 1960. 362 villages and towns in the State were affected with Smallpox the high incidence of Smallpox was recorded in Junagadh (307 deaths) followed by Ahmedabad (258 deaths), Mehsana (218 deaths), Banaskantha (196 deaths), Surat (91 deaths), Jamnagar (84 deaths), Rajkot (65 deaths), Amreli (56 deaths) and Sabarkantha (44 deaths). In other districts the incidence was of sporadic nature.

The disease was prevalent in the State throughout the year. The highest number of deaths were recorded during the month of December 1960.

Vaccination and re-vaccination work was carried out on the mass scale, in the affected and threatened areas, by indenting extra doses of lymph and by mobilising existing public health staff from the non-affected areas wherever necessary. Temporary, Smallpox Regulations, formed under the Epidemic Diseases Act, 1897, were made applicable to all the affected and threatened areas. In all 6,34,489 primary and 33,72,927 re-vaccinations were performed during the year under report.

Kerala—During the year 1960, all the districts in this State were affected with Smallpox. A total of 1,691 cases and 587 deaths were registered during the year under report. The number of deaths from Smallpox was recorded maximum (87) in the month of March. Out of the 587 deaths reported 41 deaths were among the children under one year of age and 152 were among the children in between the age group of 1-10 years.

Primary and re-vaccinations were compulsory both in the rural and urban areas of the State under the Municipal regulations and the special rules in force. During the year under report a total of 25,49,499 vaccinations were performed in the State.

Madras—The registered mortality from Smallpox was further declined during 1960 as may be seen from the following statement :—

Years									Death Rates	Years	Death Rates
1951	.	.	.	.	.	.	.	.	0·3	1956	0·03
1952	.	.	.	.	.	.	.	.	0·1	1957	0·12
1953	.	.	.	.	.	.	.	.	0·1	1958	0·17
1954	.	.	.	.	.	.	.	.	0·1	1959	0·07
1955	.	.	.	.	.	.	.	.	0·03	1960	0·05

The deaths from Smallpox form only 0.4 per cent of the total registered deaths. The distribution of Smallpox deaths in the different areas in 1960, as compared to 1959, is as detailed below :—

Areas and Places						1959		1960	
						No. of Deaths	Death Rates	No. of Deaths	Death Rates
Madras State	.	.	.	.	.	2,225	0·07	1,744	0·05
Rural areas	.	.	.	.	.	1,337	0·05	894	0·04
Urban areas	.	.	.	.	.	888	0·10	850	0·09
Municipal Towns	.	.	.	.	.	821	0·14	754	0·12
Census Towns	.	.	.	.	.	67	0·02	96	0·03

There was a reduction in the mortality in all the areas except census towns as compared to 1959.

Madras City continued to record the largest number of death (521) and was responsible for 30 per cent. of the total deaths from Smallpox in the State. The districts of Chingleput, North Arcot, South Arcot, Tanjore and Madurai reported sporadic cases of the disease throughout the year, while stray cases were recorded in all the other districts except Nilgiris and Kanyakumari districts which were practically free. Compared to 1959, the incidence was less in all the districts except Madurai and Tirunelvali districts of the State. 11,43,604 primary and 52,04,287 re-vaccinations were performed.

Maharashtra—There were 1,615 deaths from Smallpox during the year, 1960. All the districts of the State were affected. The incidence was higher in the districts of Poona and Nagpur. The disease prevailed in either mild or moderate form in other districts too. During the month of December high incidence was recorded.

Mass vaccination campaign was organised in all the affected and threatened areas. Temporary Smallpox Regulations were also applied to the affected areas with Smallpox.

During the year, 1960, a Pilot Project for eradication of Smallpox was started in the Chanda district of the State. In August, nearly 80 per cent. of the population of Chanda, Brahmapuri and Warom Tehsils was vaccinated under the project sponsored by the Government of India. The Government had proposed to expand the project to cover the whole of the State in the course of the Third Five Year Plan period.

10,25,825 primary vaccinations and 49,15,445 re-vaccinations were performed.

Madhya Pradesh—There were 2,316 cases and 363 deaths during the year under report as against 4,158 cases and 723 deaths during the previous year. Out of the 723 deaths, 97 deaths were among the children under one year of age and 206 among the children under the age group of 1-10 years. The maximum number of deaths (74) were recorded in the month of June and the minimum number of death (1) was recorded in the month of September.

Intensive vaccination campaign was launched in the rural and urban areas of the State. 4,91,900 primary vaccinations and 6,65,063 re-vaccinations were performed.

According to the recommendations of the Central Expert Committee on Smallpox a Pilot Project for eradication of Smallpox was established at Durg district as a centrally sponsored scheme. Under this scheme, 34,187 primary and 2,51,668 re-vaccinations against Smallpox were performed upto December, 1960.

Mysore—During the year under report all the districts were affected with Smallpox. 2,277 deaths with a death rate of 10.19 per million of population were reported against 3,593 deaths with a death rate of 16.2 per million of population during the year, 1959.

Orissa—During the year under report the Smallpox infection continued to be prevalent in this State. All the districts more or less were affected with Smallpox. The incidence of Smallpox was maximum in the Koraput district of the State. During the year under report 1,978 deaths from Smallpox were recorded. The maximum incidence was reported during the month of April (273 deaths) and minimum (38 deaths) in the month of October.

Punjab—Smallpox claimed 146 deaths with a death rate of 0.01 per thousand of population during the year 1960 as compared to 116 deaths with a death rate of 0.01 during the preceding year. Out of 146 deaths, 119 were registered in the rural and the remaining 27 in urban areas of the State. Almost all the districts were reported

to be affected with Smallpox. However, no death was registered from Smallpox in Simla, Patiala and Kapurthala districts. The largest number of deaths from Smallpox were registered in the Mohindergarh district of the State.

As recommended by the Central and State Expert Committees on the eradication of Smallpox and Cholera, an eradication project of Smallpox was taken in hand in Gurgaon district of the State.

Various preventive measures to check the outbreak of Smallpox were taken simultaneously in all parts of the State. The provisions of Epidemic Diseases Act, 1897 were in force throughout the State. 6,34,538 primary and 18,68,748 re-vaccinations were performed during the year 1960.

Rajasthan—Twentyfive out of twentysix districts in this State were affected with Smallpox during the year, 1960. 4,735 cases and 1,670 deaths due to Smallpox were recorded. The incidence of the disease was highest in the month of April recording 1,062 attacks and 328 deaths. Out of the total number of deaths (1,670) recorded from Smallpox, 571 were among the children under one year of age. A total of 3,97,079 primary and 4,09,947 re-vaccinations were performed during the year under report.

Uttar Pradesh—The State was not free from Smallpox during the year 1960. All the districts were affected with Smallpox. The highest incidence of the disease was recorded in the districts of Kanpur, Lucknow, Meerut, Muzaffarnagar, Allahabad and Bijnor. The incidence was prevalent throughout the year. However, the maximum number of deaths were recorded during the month of June and the minimum during the month of October. A total of 8,409 deaths from Smallpox were registered during the year under report out of which 2,057 and 2,363 were among the children in the age groups under one year and 1-10 years respectively.

West Bengal—The mortality from Smallpox was declined from the death rates recorded in the State of West Bengal as given below :—

Years	No. of Smallpox deaths	Death rates per mille of population
1956	1,185	0.04
1957	10,095	0.3
1958	15,091	0.5
1959	2,292	0.07
1960	592	0.02

During the year under report no death from Smallpox was reported by 71 municipal towns out of the 88 submitting information to the Government of West Bengal. 37.3 per cent of total

deaths from Smallpox in the urban areas was accounted for by the Howrah Municipality alone. 70.8 per cent of total deaths from this cause in the rural areas was shared by the 24-Parganas district.

The highest number of deaths (163) was registered during April and lowest (3) in the months of September and October.

Out of the total deaths from Smallpox, 7.7 per cent was among the infants while 31.2 per cent and 25.2 per cent were shared by the next two higher age groups of 1-4 years and 5-14 years respectively. Thus 64.1 per cent. of deaths from Smallpox occurred below 15 years of age.

The programme of vaccination was carried out as usual during the year as preventive measure against Smallpox in the State. 1,14,40,343 vaccinations were performed of which 50,22,161 were successful.

Delhi—The incidence of the disease continued to be reported during the year 1960 in the Union Territory of Delhi. A total of 1,034 cases (42 rural and 992 urban) and 224 deaths, recorded in the urban areas of this Territory, were registered during the year under report. The incidence was maximum (67 deaths) during the month of May and minimum (1 death) during the months of September and October. Out of 224 deaths from Smallpox 37 were among the infants and 86 from the children in the age group of 1-10 years. The incidence of Smallpox was higher during the year 1960 as compared to the preceding year. To combat the disease 13,19,233 vaccinations were performed during the period covered by this report.

Himachal Pradesh—This Administration was not free from Smallpox during the year 1960. The districts of Mahasu, Mandi, Chamba and Bilaspur were affected with the disease. The incidence of Smallpox was highest during April, 1960.

Pondicherry—The incidence of the disease continued to be reported during the year 1960 in the Union Territory of Pondicherry. The incidence was prevalent throughout the year. A total of 857 deaths from Smallpox were registered during the year under report. The incidence was recorded maximum (104 deaths) and minimum (47 deaths) during the months of July and November respectively. Out of the 857 deaths registered from Smallpox, 222 were among the infants while 414 deaths were shared by the children in the age group of 1-10 years.

Tripura—The incidence of the disease continued to be reported during the year 1960 in the Union Territory of Tripura. No death was reported from Smallpox.

PLAUGE

Plague is one of the six quarantinable diseases and is notifiable throughout the country. In India the disease brokeout in Bombay in 1896 and within a short time the disease spread widely throughout the country. The registered death rates from plague per mille of population in India recorded during the years from 1941 to 1960 are given in Table 10.

It may be seen from the table cited above that the death rates due to this disease have declined from 0.3 per mille of population in 1947 to 0.0 during the years 1954 to 1960.

A few cases were reported from some districts of the States of Mysore, Madras and Andhra Pradesh during the period covered by this report. The disease is still prevalent in border districts of Madras, Mysore and Andhra Pradesh States. During the year 1960 cases and deaths from plague were also reported from the State of Bihar. The other States and Union Territories were free from the infection of this disease during the period covered by this report. The position with regard to the prevalent of the disease and the preventive measures taken in the said States are described below :—

Andhra Pradesh—During the year 1960 the entire State continued to remain free from plague as a result of the effective anti-plague measures undertaken by the Public Health staff. In view of the fact that plague infection was being reported from border areas of other States, intensive anti-plague work was carried out in the endemic areas during the year under report.

Plague preventive measures were carried out throughout the year in endemic areas of Chittoor, Anantpur, Mahboobnagar, Medak and Nizamabad districts and in Hyderabad City. Spraying of houses with DDT, treatment of burrows with 10 per cent. DDT, and cyanogas spraying of houses with DDT and destruction of rodents were some of the measures undertaken.

Bihar—During the year 1960, a total of 44 deaths from plague were registered in the State of Bihar. The maximum number of deaths (8) were recorded during the month of October and no death occurred during the months of June and July.

Madras—During the year under report seven villages in Hosur taluk in Salem district of the State were affected with plague and there were 29 attacks and 14 deaths. The date of the first onset of the infection was 27th February, 1960. The source of infection was traced to be infected ragi transported from Dadinaickendoddi village in Kolar district of the Mysore State, bordering the infected area in Madras State. The infection was controlled in March.

All the infected and neighbouring villages were immediately sprayed with DDT and 55,002 anti-plague inoculations were performed. The anti-plague measures were supervised by Officers from headquarters. All the other districts were free from plague completely.

All the 1,646 endemic villages for plague in Salem, Nilgiris and Coimbatore districts and the towns of Coimbatore, Coonoor and Ootacamund were sprayed with DDT regularly.

During the year under report 1,70,494 houses, 93,435 hutments, 13,66,276 rodent burrows and 3,42,599 cracks and harbourages were sprayed with 1,15,016 lbs. of 10 per cent. DDT and 7,297 lbs. of 50 per cent. D.D.T. Block fumigation of 702 grain shops and godowns with cyanogas 'A' dust was also carried out. Regular rat-trapping was done in all the endemic areas systematically and periodically for rat-flea

survey and as an anti-rat measure and for detection of any evidence of smouldering plague infection in the rat population. The number of rodents destroyed by fumigation and trapping was 47,332. Out of these 8,788 were examined but no rat was found infected with plague. Rat flea surveys in all the DDT treated areas have shown that the rat flea indices are generally below one except in a few places.

Mysore—A total of 52 deaths from plague were reported during the year under report as against 91 deaths during the year 1959. The infection of plague was confined to Kolar and Mysore districts alone.

CHOLERA

Cholera is one of the six quarantinable diseases and is notifiable throughout the country. During the period covered by this report 18,565 deaths due to cholera were reported from the various parts of the country giving a death rate of 0.05 per mille of population. the corresponding reported deaths in the year 1959 due to Cholera were 6,290 giving a death rate of 0.02 per mille of population. The number of deaths reported due to cholera in certain countries of the world along with the figures reported in India during the period from 1951 to 1960 are shown in Table 11.

During the year covered by this report, the State of Kerala and the Union Territories of Andaman and Nicobar Islands, Himachal Pradesh and Manipur were free from the disease. The States of Andhra Pradesh, Assam, Gujarat, Madhya Pradesh, Madras, Maharashtra, Mysore, Orissa, Rajasthan, and the Union Territories of Pondicherry and Tripura were moderately affected with the disease while the States of Bihar, Jammu & Kashmir, Punjab, Uttar Pradesh, West Bengal and the Union Territory of Delhi reported the heavy incidence of the disease. In the affected areas deaths reported from Cholera were more or less the same during all the months of the year under review. However, at the all India level, the higher reporting of cholera deaths were during the months from April to October and the maximum number of deaths from cholera were reported during the month of August.

The mortality due to cholera reported by the various States/ Union Territories in the country, based on annual figures, is given below:—

States	Cholera Deaths
1	2
1. Andhra Pradesh	207
2. Assam	117
3. Bihar	2,757
4. Gujarat	67
5. Jammu and Kashmir	186

1	2
6. Kerala . . . . .	..
7. Madhya Pradesh	408
8. Madras	20
9. Maharashtra	124
10. Mysore	157
11. Orissa	308
12. Punjab	61
13. Rajasthan	41
14. Uttar Pradesh	12,095
15. West Bengal	1,970
<i>Union Territories</i>	
1. Andaman and Nicobar Islands . . . . .	..
2. Delhi	32
3. Himachal Pradesh . . . . .	..
4. Manipur . . . . .	..
5. Pondicherry	7
6. Tripura	8
INDIA	18,565

From the above table it may be seen that the State of Uttar Pradesh recorded the highest percentage (65.03) of mortality due to cholera to the total number of cholera deaths reported in the entire country. Among the States, the lowest mortality was recorded in the Madras State (0.1 per cent) and among the Union Territories the lowest mortality was of the order of 0.04 per cent. in the Pondicherry and Tripura Administrations.

India being a land of social and cultural heritage and consequent upon it, the large gatherings of pilgrims are held on the eve of various fairs and festivals at different important centres in the country throughout the year. The wide spread dissemination of the disease in different parts of the country is due to this large congregation at the time of fairs and festivals when a large quantity of unprotected water is used by the pilgrims. In order to control the spread of the disease, all sanitary, preventive and curative measures are taken at such occasions by the various State Health Directorates in the country.

A brief account of the various activities undertaken by the State/Union Territory Health Authorities in the country to combat the disease is given below.

Andhra Pradesh—The infection, which was prevalent during the year 1959, continued during the year 1960. Cholera was prevalent only in 8 districts out of 20 districts in the State. The incidence was at its peak during the month of January and continued to be high during the month of February. From the month of March onwards the incidence continued to be declined till in the month of August, when the State was free from the disease. There was a sharp increase in the incidence of the disease during October and the incidence continued to be in sporadic form during the months of November and December. In all 207 deaths due to Cholera were reported from the various districts of the State.

All necessary preventive and control measures were undertaken by the Public Health Department to combat the disease. 9,89,348 anti-cholera inoculations, including anticipatory, were performed in the State on a large scale. Chlorination of drinking water supplies, disinfection of infected premises and articles, isolation and treatment of patients were done by the health staff.

Assam—The cholera incidence continued to be prevailed in the State of Assam throughout the year under report. In all 117 deaths from cholera were registered from the different parts of the State. The maximum number of deaths (15) were registered during the months of January, March and October. A total of 9,57,333 inoculations were performed as the preventive measure against cholera.

Bihar—The incidence of the disease continued to be reported practically from all the districts of the State during the year under report. However, the incidence was reported to be high in the districts of Patna, Gaya, Shahabad, Saran, Darbhanga, Monghyr, Bhagalpur and Purnea. The incidence continued to be reported in a sporadic form in the districts of Champaran, Muzaffarpur, Saharsa, Santhal Parganas, Hazaribagh, Ranchi, Palamau, Dhanbad and Singhbhum.

In all 2,757 deaths from cholera were reported in this State during the year under review. The maximum number of deaths (504) from cholera were recorded in the month of August. The incidence continued to be high in the months of July, September, October and November recording 317, 404, 420 and 371 deaths respectively. The minimum number of deaths (15) from cholera were registered in the month of January.

Gujarat—Cholera prevailed in a very mild form in the State during the year covered by this report recording 67 deaths. The districts of Dangs, Amreli, Jamnagar, Junagadh, Kutch, Rajkot and Surendranagar were free from the disease. The highest number of deaths (16) were recorded in the Kaira district of the State. Preventive measures like prompt isolation and treatment of cholera cases in the mobile isolation hospitals opened temporarily in the cholera affected areas as near the place of out-break as possible, mass anti-cholera inoculations and regular and repeated disinfection of water supplies in the affected and threatened areas were undertaken during the period covered by this report.

In the mass anti-cholera inoculation drives carried out in the affected and threatened areas, about 4,00,000 anti-cholera inoculations were performed.

Madras—The mortality from cholera recorded during the past 10 years is as under :—

Years											Cholera deaths	Death rates
1950	.	.	.	.	.	.	.	.	.	.	26,432	0·9
1951	.	.	.	.	.	.	.	.	.	.	12,552	0·4
1952	.	.	.	.	.	.	.	.	.	.	9,081	0·3
1953	.	.	.	.	.	.	.	.	.	.	22,445	0·7
1954	.	.	.	.	.	.	.	.	.	.	1,592	0·1
1955	.	.	.	.	.	.	.	.	.	.	291	0·01
1956	.	.	.	.	.	.	.	.	.	.	6	0·00
1957	.	.	.	.	.	.	.	.	.	.	2,930	0·1
1958	.	.	.	.	.	.	.	.	.	.	2,312	0·1
1959	.	.	.	.	.	.	.	.	.	.	206	0·01
1960	.	.	.	.	.	.	.	.	.	.	20	0·00

The incidence of the disease over the last decade had declined rapidly. The State was practically free from cholera infection in 1960, while there being only 20 deaths as against 206 deaths in the preceding year. Out of the recorded 20 deaths from cholera, 6 occurred in two municipal towns and 14 in rural areas.

Chlorination of water sources and fly control measures were undertaken. A total number of 3,12,675 anti-cholera inoculations were performed.

The Central Expert Committee and the State Expert Committee, constituted to evolve measures for the eradication of cholera in the State, concluded that there was no need for a pilot project for cholera control, as the State had practically been free from the disease.

Madhya Pradesh—408 deaths from the disease as against 170 deaths during the previous year were recorded in the State. The disease brokeout in Bilaspur district in the month of February. The maximum incidence was reported from the districts of Durg, Bilaspur, Raipur and Satna. Preventive measures such as anti-cholera inoculations disinfection of wells and other sources of water supply and isolation of patients were undertaken during the period covered by this report.

Maharashtra—The disease prevailed in a mild form claiming 124 deaths as against 297 in the preceding year. The total number of cholera cases reported in the State during the year under report were 680 giving a case fatality rate of 18·3 per cent. The districts of Ahmednagar, Nasik and Kolaba recorded a greater number of deaths than any other districts in the State. The districts of Akola, Bhandara,

Buldana, Chanda, Nagpur, Wardha and Yeotmal were free from the disease. In the other districts the incidence was only sporadic. Of the total number of deaths (124) recorded during the year under report due to cholera 48 per cent. of deaths were recorded during the months of July, August and September. The highest and lowest number of deaths were recorded in August and December respectively. The disease continued to prevail more or less throughout the year. The following preventive measures for the control of cholera were undertaken :—

- (a) Isolation and treatment of as many cases as possible in the Mobile Hospitals opened temporarily in the several cholera affected areas ;
- (b) Mass anti-cholera inoculations ;
- (c) Regular and repeated disinfection of water supplies in the affected villages ; and
- (d) Temporary cholera regulations were applied to the affected areas.

One more Mobile Hospital Unit with 50 beds was established with headquarters at Poona. In all five Mobile Hospital Units functioned in Maharashtra State during the period covered by this report. The mobile staff was divided into small units for the purpose of opening temporary isolation hospitals for arranging treatment of cholera cases in affected areas. This measure helped a good deal in preventing the spread of the epidemic to adjoining areas besides reducing the mortality amongst the cases admitted for treatment in these hospitals. Apart from reducing the case fatality, these units played a vital role in reducing the quantum of infection and thus checking the further spread. In the mass anti-cholera inoculation drive carried out in the affected and threatened areas, 21,36,995 anti-cholera inoculations were performed.

Mysore—The incidence continued to be prevalent during all the months of the year under report. A total of 157 deaths from cholera were registered during 1960 as against 261 during the preceding year. The maximum number of deaths (18) were registered during June and minimum deaths (8) during the months of July and September.

Punjab—As a result of the strict and effective preventive measures undertaken, the incidence of the disease was minimum throughout the State as compared to West Pakistan territory and the neighbouring States in India. It is note-worthy to state that no case or death was reported to have occurred in Amritsar and Gurdaspur districts, which are on the border of West Pakistan territory, wherein the severe out-break of cholera was reported.

During the year under review, 61 deaths were registered from cholera with a death rate of 0.003 per thousand of population. Out of these deaths, 48 were registered in the rural and 13 in the urban areas of the State. The maximum number of deaths (26) were reported from the Mohindergarh district. Necessary preventive and curative measures were taken to bring the incidence of the disease under control.

Rajasthan—The incidence of the disease continued to be reported in the State of Rajasthan during the year covered by this report. A total of 41 deaths from cholera were registered during the year

under report. The incidence of the disease had prevailed mostly during the period from April to October. The maximum number of deaths (24) were recorded during September and no death was recorded during the month of January to March and May, November and December.

Uttar Pradesh—The incidence of the disease continued to be prevailed during the year 1960 in the State of Uttar Pradesh. A total of 12,095 deaths from cholera were recorded in this State. In August, the maximum number of deaths (6,573) were reported. The reporting of deaths was also higher in the months of April, May, June, July, September and October. The minimum number of deaths (15) were recorded in the month of January.

West Bengal—A total of 1970 deaths from cholera were registered during the year 1960. Out of the 1,409 deaths 877 were from the rural population while 532 were reported by the urban population. The incidence prevailed during all the months of the year. The highest number of deaths (315) were recorded in the month of May followed by July (305) and lowest number of deaths (56) were recorded in the month of March.

The mortality from cholera by age groups during the year 1960 maintained similar proportions as those in the previous year. 54.6 per cent. of the total deaths from cholera occurred in the population of age above 15 years while 42.7 per cent took place among the population of age 1-14 years and 2.4 per cent. among the infants.

Delhi—The Union Territory of Delhi was not free from the disease during the year covered by this report. Deaths from cholera were recorded during the months of July to October as given below :—

Months										Deaths from Cholera
July	.	.	.	.	.	.	.	.	.	11
August	.	.	.	.	.	.	.	.	.	7
September	.	.	.	.	.	.	.	.	.	6
October	.	.	.	.	.	.	.	.	.	8
TOTAL										32

Pondicherry—This Territory was free from cholera throughout the year under report except in the month of January. A total of 7 deaths from cholera were registered during the month of January.

Tripura—This Territory was not free from cholera infection during the year under report. A total of 25 cases and 8 deaths from cholera were reported. The incidence of cholera prevailed during the months of January, February, April, May, July and November.

DYSENTERY AND DIARRHOEA

Dysentery and Diarrhoea is one of the leading cause groups of sickness in the country under which the registration of mortality due to this group of disease is done on uniform basis throughout the

country. During the year under report 1,79,793 deaths due to Dysentery and Diarrhoea were reported giving a death rate of 0.47 per mille of population, as against 0.46 in the preceding year. The total number of deaths recorded in the country due to all causes of sickness were 35,60,369 of which 5.1 per cent of deaths were shared by the Dysentery and Diarrhoea.

The State-wise break-up of the deaths registered due to this group of disease in the country during the year covered by this report is given below :—

States	No. of deaths registered due to Dysentery and Diarrhoea
1. Andhra Pradesh	13,010
2. Assam	3,238
3. Bihar	3,898
4. Gujarat	6,353
5. Jammu and Kashmir	+
6. Kerala	6,216
7. Madhya Pradesh	8,642
8. Madras	31,739
9. Maharashtra	28,519
10. Mysore	11,158
11. Orissa	12,550
12. Punjab	8,908
13. Rajasthan	1,343
14. Uttar Pradesh	30,536
15. West Bengal	9,778
<i>Union Territories</i>	
1. Andaman & Nicobar Islands	36
2. Delhi	1,277
3. Himachal Pradesh	1,262
4. Laccadive Islands	43
5. Manipur	4
6. Pondicherry	1,207
7. Tripura	76
TOTAL	1,79,793

+ Information not available.

It may be seen from the above table that among the States the maximum number of deaths were reported due to this group of disease from the Madras State constituting 17.6 per cent. to total deaths reported due to this group of disease in whole of India followed by the States of Uttar Pradesh (17.0 per cent), Maharashtra (15.9 per cent), Andhra Pradesh (7.2 per cent), Orissa (7.0 per cent), Mysore (6.2 per cent), West Bengal (5.4 per cent), Punjab (5.0 per cent), Madhya Pradesh (4.8 per cent) and Gujarat (3.5 per cent). The minimum percentage of deaths recorded due to this group of disease was of the order of 0.75 per cent in the State of Rajasthan. Among the Union Territories, 1,277 deaths due to Dysentery and Diarrhoea were reported giving a percentage of 0.71 to total deaths recorded due to this group of disease in the entire country. The Union Territory of Manipur recorded the minimum percentage of deaths which was of the order of 0.002.

On an all India level, the maximum number of deaths from this group of disease were reported in August while the minimum deaths were recorded in the month of February. It is, however, observed on the basis of the available data for a few past years that the reporting of deaths from Dysentery and Diarrhoea is higher during the months of July to October than any other months in the year. The detailed information regarding the prevalence of the disease in the various States/Union Territories in the country is given below.

Andhra Pradesh—The State of Andhra Pradesh recorded 13,010 deaths due to Dysentery and Diarrhoea giving a death rate of 0.38 as against 13,737 deaths with a death rate of 0.40 per mille of population in the preceding year. The percentage of deaths due to this disease to the total deaths from all causes was 5.37 as against 5.28 during the preceding year. In rural areas 10,001 deaths were registered with a death rate of 0.35 per mille of population. In urban areas 3,009 deaths were registered under this group of disease giving a death rate of 0.47 per mille of population.

Assam—3,238 deaths from Dysentery and Diarrhoea were reported as compared to 3,555 deaths in the preceding year and 3,377 deaths in 1958. The death rate per mille of population was 0.39 during the year under report as compared to 0.35 in the previous year.

Bihar—In all 3,898 deaths from Dysentery and Diarrhoea were reported in the State of Bihar during the year under report. The maximum and minimum number of deaths, which were of the order of 645 and 100 respectively, were reported during the months of August and February respectively. The reporting of deaths continued to be high during the months of July and September.

Gujarat—6,353 deaths from Dysentery and Diarrhoea were recorded during the year under report as against 7,318 deaths during the preceding year.

Kerala—6,216 deaths from Dysentery and Diarrhoea were recorded in the State of Kerala during the year covered by this report. The maximum number of deaths (752) were reported in the month of December and the minimum number of deaths (282) were reported in the month of February. The reporting of deaths from this group of disease continued to be high from July to December during the year under review.

Madhya Pradesh—During the year under report, 8,642 deaths from Dysentery and Diarrhoea were recorded. The death rate from Dysentery and Diarrhoea was 0.31 per mille of population.

Madras—The mortality from this group of disease had slightly increased from 29,033 in 1959 with a death rate of 0.87 per mille of population to 31,739 in 1960 with a death rate of 0.94. The slight increase in the mortality due to this group of disease is noticed in rural areas as may be seen from the break-up of mortality according to different areas in the State as shown below :—

Areas	Total deaths from Dysentery and Diarrhoea		Death Rates (per mille of population)	
	1959	1960	1959	1960
State	29,033	31,739	0.87	0.94
Rural	16,943	19,439	0.69	0.79
Urban	12,090	12,300	1.37	1.37
Municipal Towns	10,292	10,308	1.71	1.65
Census Towns	1,798	1,992	0.64	0.72

The slight increase in the mortality in rural areas was due to the sudden increase in deaths from diarrhoea reported from North Arcot and South Arcot districts in the month of December. The mortality due to these diseases constituted 7.8 per cent of the total number of recorded deaths as against 7.3 in the preceding year.

Maharashtra—28,519 deaths were reported from Dysentery and Diarrhoea of which 3,874 were from Dysentery and 24,645 were from Diarrhoea. The deaths from this cause group were reported during all the months of the year covered by this report. The maximum number of deaths (3,670) were reported during the month of August and minimum deaths (1,622) during the month of February. The number of deaths continued to be reported higher during the months of September and October than any other months of the year.

Mysore—A total of 11,158 deaths from Dysentery and Diarrhoea were registered during the year 1960 as against 16,081 deaths during the previous year. The disease continued to prevail during almost all the months of the year.

Orissa—A total of 12,550 deaths from Dysentery and Diarrhoea registered during the year under report. The maximum number of deaths (1,379) were reported during the month of August and minimum deaths (740) during the month of February. The deaths due to this group of disease continued to be reported high during the months of May to July and September to December.

Punjab—The reporting of deaths from Dysentery and Diarrhoea continued during the year 1960. A total of 8,908 deaths from this cause group were reported during the year under report as against 6,020 deaths during the previous year. The death rate due to this group of disease was 0.49 per mille of population during the year 1960 as compared to 0.40 during the previous year.

Rajasthan—1,343 deaths from Dysentery and Diarrhoea were recorded in the State of Rajasthan. The maximum number of deaths (193) from this cause group were reported in the month of August and minimum deaths (63) in the month of February.

Uttar Pradesh—A total of 30,536 deaths from Dysentery and Diarrhoea were reported during the year under report in this State. The disease continued to prevail in all the months of the year. The maximum number of deaths (4,014) were reported in the month of August and minimum number of deaths (1,518) were reported in the month of January.

West Bengal—The deaths from Dysentery (of all forms) alone were registered in the State of West Bengal during all the months of the year covered by this report. Dysentery and Diarrhoea claimed 9,778 deaths during the year under report in this State. Out of these 7,970 were recorded in the rural areas while 1,808 were reported from the urban areas. The disease was more prevalent in urban areas as compared to the rural areas of the State. The highest number of deaths (1,445) were recorded in the month of August and lowest in the month of January.

The death rate due to this group of disease was 3.11 per mille of population during the year under report. It was, however, maximum in the age-group "below one year" and had a low tendency of its incidence in the age-group beginning from "15-44 years". The death rate from Dysentery and Diarrhoea, however, increased with the age from the age group 45-64 years and above.

Andaman and Nicobar Islands—During the year under report, 36 deaths due to Dysentery and Diarrhoea were reported as against 39 deaths in the preceding year. The maximum number of deaths were recorded in the months of February, March and July. No death was recorded in the month of October.

Delhi—In the Union Territory of Delhi, 1,277 deaths from Dysentery and Diarrhoea were registered during the year under report. The month of September registered maximum number of deaths (199) while the month of February recorded the minimum number of deaths (21) from this group of disease. However, the months of June, July and September also recorded the higher mortality due to this group of disease.

Himachal Pradesh—The deaths from Dysentery and Diarrhoea were reported throughout the year under review. A total of 1,262 deaths from this group of disease were reported. The maximum number of deaths (177) were registered during the month of June and minimum (44) during the month of January.

Laccadive Islands—43 deaths due to Dysentery and Diarrhoea were reported from this Administration during the period under review in comparison to 70 deaths in the preceding year.

Pondicherry—A total of 1,207 deaths from Dysentery and Diarrhoea were recorded in this Administration during the year 1960. The maximum number of deaths (114) from this group of disease were recorded in the month of March and December and minimum (70) in the month of September.

Tripura—During the period covered by this report, 76 deaths due to Dysentery and Diarrhoea were reported as against 43 deaths in the preceding year.

MALARIA

Malaria has been recognised as one of the biggest and most important public health problems in India. The National Malaria Control Programme was launched in April, 1953 with the objective of reducing the morbidity in highly malarious areas of the country to such a low level that the disease would cease to be a major public health problem. The campaign of National Malaria Control Programme was switched over to National Malaria Eradication Programme in 1958.

The National Malaria Eradication Programme, which was launched in the country from April, 1958 entered into the third year of its operation during 1960-61. The objective of the National Malaria Eradication Programme was to include all known malarious areas irrespective of the degree of malariousness with a view to cover the entire population and finally eradicate the disease from the country within a limited time schedule with the establishment of 390 units, each unit designed to protect about one million population.

According to the plan of operation residual insecticide spray operations were to be continued in all the 390 units during the year 1960-61. Besides, surveillance operations (i.e., detection of malaria cases by house to house visits and through the hospitals, dispensaries etc., for radical treatment of all microscopically positive cases and their epidemiological investigations and remedial measures etc.) were to be instituted in 364.5 unit areas out of 390 units during 1960-61. No surveillance operations were, however, to be instituted in 20.5 border areas and 5 problem area units till 1965-66 and spray operations only were to be carried out till 1964-65.

Units :

All the 390 units functioned during the year under review covering the entire country and it is estimated that these afforded protection to a population of about 381.25 million. Active surveillance operation was to be started with effect from April, 1960 in 364.5 out of 390 units. However, sanction was accorded late by the various State Governments and surveillance was instituted in 339.5 units during 1960-61. The surveillance operations started in Mysore and Madras in April and May 1960 respectively. The States of West Bengal, Jammu & Kashmir, Kerala (for 2 units) and Andaman & Nicobar Islands did not start surveillance operations. As indicated above no surveillance procedures were, however, to be taken up in the other 25.5 border/problem area units.

Staff :

Centre—Almost the entire staff was in position at the Directorate of the national Malaria Eradication Programme and the six Regional Co-ordinating Organisations were established by the Centre with headquarters at Bangalore, Baroda, Cuttack, Lucknow, Hyderabad and Shillong. The Director, National Malaria Eradication Programme and Officers from the Headquarters, the Regional Directors and other

Organisations carried out extensive tours in all the States and Union Territories during the year for study of the progress of National Malaria Eradication Programme. Dr. R. L. Laird, Medical Entomologist, whose services were assigned to the programme by the U.S.T.C.M. continued to be attached to the National Malaria Eradication Programme headquarters at Delhi.

States—The recommendations of the Union Ministry of Health regarding augmentation of supervisory staff were generally implemented by almost all the States and the Union Territories except those of West Bengal, Jammu and Kashmir and the Coalfields Anti-malaria Organisation. However, due to general shortage of medical officers in the States of Gujarat, Kerala, Maharashtra and Madras, science graduates were placed in charge of some units.

Training—The following personnel were trained at the Malaria Institute of India, Delhi and State and Regional Training Centres during 1960-61 :

1. Medical Officers (2 courses at Delhi)	75
2. Orientation course in surveillance procedure for State Malariologists and State Zonal Medical Officers (2 courses in Mysore).	94
3. Malaria Inspectors (2 courses at Delhi and 2 courses at R.C.O. Cuttack).	115
4. Laboratory Technicians (Microscopists) (One course each at Delhi, Ernakulam and Cuttack).	75
5. Malaria Engineer (Public Health) at Delhi.	34

Fellowships—During the year 1960-61, the U.S.T.C.M. and the World Health Organisation provided 6 and 2 fellowships respectively in malaria eradication. Six officers from the National Malaria Eradication Programme Headquarters and the Regional Coordinating Organisations and two officers from the States of Gujarat and Rajasthan were sent abroad for training.

Expenditure—The expenditure on National Malaria Eradication Programme during the last 3 years of the Second Plan period was estimated to be Rs. 43.57 crores. The expenditure actually incurred during 1960-61 was Rs. 17.69 crores (Rs. 9.33 crores by the Centre including U.S.T.C.M. assistance mostly for material and equipment and the assistance of the World Health Organisation and Rs. 8.36 crores by the States on account of operational expenditure). The total expenditure incurred on National Malaria Eradication Programme during the 3 years period i.e., 1958-59 to 1960-61 was Rs. 42.12 crores against the estimated expenditure of Rs. 43.57 crores.

Logistics—During the year under report, 23,655 tons of DDT 75 per cent were supplied by the U.S.T.C.M. and 3,733 tons were procured by the Government of India from the U.S.A. Besides equivalent of 3,132 tons of DDT 75 per cent were obtained from indigenous sources. Total requirements of the States amounting to 28,800 tons of DDT 75 per cent required for the year were fully supplied and in addition 1,720 tons were distributed in advance as part supply for 1961-62.

1,350 tons of B.H.C. 50 per cent were procured locally. The entire quantity was distributed to areas where there were chances of development of resistance in local vectors to DDT.

During 1960-61, 60.09 million tablets of 4-aminoquinolines (Chloroquine) and million tablets of 8-aminoquinolines (primaquine) were received through U.S.T.C.M. Out of these 26.715 million tablets of 4-aminoquinolines and 89.25 million tablets of 8-aminoquinolines were distributed to the State Governments and the Railways, Coal-fields etc.

1,95,000 gross microslides were received through U.S.T.C.M. during 1960-61. Out of these 1,94,424 gross were distributed to the States and the Railways, etc. The balance of 576 gross were kept as reserve stock. 30 Microscopes which were received through U.S.T.C.M. were retained at the Malaria Institute of India (now National Institute of Communicable Diseases), Delhi for training purposes.

38 Jeeps and 14 station wagons were received through U.S.T.C.M. 36 Jeeps were distributed to the States and 2 kept at National Malaria Eradication Programme Headquarters for purposes of field investigations. The station wagons were supplied to the States and the Regional Co-ordinating Organisations.

Besides the above, 151 Jeeps and 4 Jeep trucks were procured locally and were distributed to different States.

Co-ordination Committee—A special Working Committee constituted at the Centre for guidance in technical matters connected with National Malaria Eradication Programme held two meetings during June and September, 1960 respectively. Similar working Committees were constituted in the States. During the year under review State Working Committee meetings were held in the States of Andhra Pradesh, Assam, Bihar, Gujarat, Kerala, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh, Delhi, Himachal Pradesh and Sikkim.

World Health Organisation Teams—Three World Health Organisation Teams have been working in the country and their observations and future plan of operation are indicated below :

1. *W.H.O. Experimental study Team on Surveillance Procedures, Mysore.* This team has been carrying out special studies on surveillance procedures for case detection in different areas with different frequencies of visits at intervals of 2, 4, 6 and 8 weeks. This team also carried out mass blood survey in selected areas approximately at fortnightly intervals. The team has completed its investigation and started observations on intensive mass parasite survey in and around the Bhadra Reservoir Project area in Mysore.
2. *Advisory Team on Malaria Eradication No. 1.* This team has been working in selected areas in National Malaria Eradication Programme Unit, Bankura (West Bengal) for routine epidemiological investigations and mass blood surveys and epidemiological investigations of positive cases. The objective was to find out and investigate foci of transmission in Bankura National Malaria Eradication Programme Unit area where malaria control operations were in progress since 1952. Besides carrying out epidemiological investigations of microscopically positive cases the team established 3 foci of transmission in the area.

3. *Advisory team on Malaria Eradication No. 2.* This team with its headquarters at Baroda has been investigating the question of increased tolerance to DDT in *A. culicifacies* in Panchmahal District of Gujarat State and has carried out extensive investigations in this regard establishing a number of foci where *A. culicifacies* is highly tolerant to DDT.

In addition, the team carried out epidemiological investigations in the foot hills and plateau areas in Panch Mahal District to investigate the possibility of transmission in selected villages where DDT insecticidal spray has been carried out.

*Future Plan of operation—A.T.M.E. No. I and II—*It has been observed that simultaneous epidemiological and entomological investigations may not be necessary in the same area. It was therefore proposed to split each team into 2 sub-units, namely epidemiological sub-unit and entomological sub-unit and to depute these sub-units to different areas where related investigations are necessary. Accordingly it has been proposed to locate the epidemiological sub-unit of A.T.M.E. No. I in Darbhanga (Bihar) and entomological sub-unit in Margherita (Assam). Similarly the epidemiological sub-unit of A.T.M.E. No. II is proposed to be established in Belgaum (Mysore) and the entomological sub-unit in Baria (Gujarat).

*U.S.T.C.M. Evaluation Team—*In order to evaluate the current status of national Malaria Eradication Programme in India, it was agreed between the Government of India and the U.S.T.C.M. in early 1960 that a team of three foreign (U.S.) consultants should visit India for a period of two to three months during the spraying season. The team comprised of three members *viz.* Dr. E. H. Hinman, Epidemiologist (leader), Dr. D. J. Pletsch, Entomologist-cum-Insecticide Expert and Dr. F. E. Gartrell, Sanitary Engineer. The team arrived in Delhi on 11-9-1960 for a nine week programme and terminated their mission in India on 12-11-1960. During this period members of the team visited 14 major States, each visit lasting from two to six days. All team members participated in visits to Uttar Pradesh, Maharashtra, Gujarat, Mysore and the Corporation of Delhi. Thereafter individual members visited Andhra Pradesh, Assam, Bihar, Kerala, Madras, Madhya Pradesh, Orissa, Punjab, Rajasthan and West Bengal.

The Team was impressed with the magnitude of the programme and made certain recommendations.

The team appeared to be generally satisfied with the conduct of the programme and the efforts being made by the various echelons both in the Centre and the States.

*Health Education and Public Relation—*From July 1960, the National Malaria Eradication Programme Directorate started issuing "National Malaria Eradication News Bulletin". This monthly publication is intended to give up-to-date information on various aspects of the National Malaria Eradication Programme and to keep the Malaria and other Public Health workers working in different parts of the country in close touch with the various developments in the programme mainly technical. The publication has been found useful and widely acclaimed in all quarters.

In December, 1960 a special brochure "Malaria Eradication—What and Why" was issued by the Central Health Education Bureau. This was distributed widely as it was desired to remove certain misapprehensions from the public mind regarding the scope of the programme and also to assist the malaria workers in this regard.

To celebrate the World Health Day, April 7, 1960 for which the theme was "Malaria Eradication—A World Challenge" a comprehensive programme was drawn up by the National Malaria Eradication Programme Headquarters. All available media like the Press, radio, cinema were mobilised to widely publicise the activities of the malaria eradication programme in its different phases.

The Directorate National Malaria Eradication Programme is assisting in the production of a documentary film on Malaria Eradication Programme in India commissioned by the Union Information and Broadcasting Ministry.

In order to solve some of the health education problems and to ensure that an adequate quantum of public co-operation was forthcoming for the programme, the publicity officer of National Malaria Eradication Programme Headquarter toured extensively some of the areas in the States of Madhya Pradesh, Rajasthan, Orissa, Madras, Maharashtra and Gujarat in order to assess the situation and advise the State Governments about measures to be taken to overcome the difficulties related to lack of co-operation or resistance from the community. Based on the advice rendered many of the difficulties have been solved.

Spray coverage and population protected—Spraying operations were considered to be reasonably satisfactory only in respect of those units which were able to complete at least 90 per cent. of the houses to be sprayed within the time schedule prescribed for the 1st and the 2nd rounds.

During the 1st round 91.8 per cent of the houses reached have been sprayed for the country as a whole against 90 per cent during 1959-60. This coverage was over 90 per cent in 15 out of the 24 States and other territories in the country. During 2nd round the coverage was 88.8 per cent in 1960-61 as compared to 87.9 per cent during 1959-60. The coverage during the 2nd round was over 90 per cent in 12 States during the year under report against 10 States during 1959-60.

All the 390 units allotted functioned during the year under report. No reports were, however, received from Andaman and Nicobar Islands. It is estimated that the 390 units which functioned afforded protection to a population of about 381.25 million.

Epidemiological surveys—It is encouraging to note that the child spleen and parasite rates showed further decline during 1960-61 as compared to the previous year. Child spleen rate of 0.8 per cent has been recorded for country as a whole in 1960-61 against 1.4 per cent for 1959-60. Child parasite rate during the year was 0.1 per cent against 0.23 per cent for 1959-60. Similarly infant parasite rate showed decline to 0.04 per cent for the year under review from 0.36 per cent in 1959-60. The corresponding figures for 1953-54 were 15.7, 3.9 and 1.6 respectively.

Malaria morbidity as reported by dispensaries—The percentage of malaria cases as against all diseases reported by the hospitals and dispensaries i.e. proportional case rate of malaria worked out to 1.3 per cent for the country as a whole in 1960-61 against 2.4 per cent for 1959-60 and 10.8 in 1953-54.

Surveillance operations—As already indicated earlier, according to the plan of operations, in addition to spray operations, surveillance operations were to be undertaken in 364.5 unit areas out of 390 units during 1960-61. No surveillance procedures were, however, to be undertaken in the remaining 25.5 border/problem area units and spraying without surveillance was to be continued in these units till 1964-65.

The surveillance operations were to be instituted from May/June 1960 but due to certain administrative delays in the sanction, recruitment and training of surveillance staff, surveillance operations could not commence on the prescribed dates in the States. However, at the end of the year 1960-61, active surveillance operations had commenced in 339.5 units against 364.5 units scheduled for surveillance. In the remaining 25 units (20.25 in West Bengal, 2 in Kerala, 1.5 in Jammu & Kashmir, 1 in the Coalfields and 0.25 in Andaman & Nicobar Islands) surveillance operations were expected to be commenced during 1961-62.

Before the commencement of the active surveillance operations house and population census was carried out by the surveillance staff of the unit. Each unit was provided with 25 surveillance inspectors and 100 surveillance workers. Each surveillance worker in general was assigned a population of 10,000.

Passive surveillance procedures were also instituted in co-operation with the health centres, dispensaries and hospitals and medical practitioners in a limited scale.

Entomological investigations—During the year routine mosquito collections continued in all the 390 units. From the data collected it was evident that in most States the vector population had shown a gradual decline during the past 8 years and in many areas the vector densities had decreased to a level where it was often difficult to find the vector.

Susceptibility of anopheline mosquitoes to insecticides—The increased tolerance of *A. culicifacies*, one of the important vectors in India, to DDT was first reported in September, 1959 in the Panch Mahal District of Gujarat State. From June, 1960, more reports of high tolerance in *A. culicifacies* to DDT were received and by September, 1960 this tolerance was quite pronounced in some areas of Gujarat State. It was apprehended that resistance may be a wide spread problem. In order to discuss ways and means to be adopted to combat such a situation and to draw up a plan for making the necessary investigations for the purpose of delimiting the problem areas a meeting of the Entomologists was held in Delhi in November, 1960.

The salient recommendations of the Entomologists' meeting were :

1. Extensive susceptibility tests should be undertaken forthwith in the States of Gujarat and Maharashtra and the adjoining areas of Madhya Pradesh, Rajasthan and Andhra Pradesh. The other States where *A. culicifacies* is a vector and where DDT spraying has been carried out for several years should be advised to initiate similar investigations.
2. The surveillance procedure should be immediately intensified in areas where DDT resistance has appeared. If surveillance has not yet commenced, the highest priority should be given to such areas in regard to the placement of necessary staff.
3. The situation in these areas should be carefully watched and B.H.C. should be put to use after prior consultation with the Directorate, National Malaria Eradication Programme, only if there is any malaria transmission above the normal trends in spite of satisfactory DDT spray coverage.

Since then, susceptibility tests carried out in different areas of Gujarat, Maharashtra, Madhya Pradesh, Rajasthan and Andhra Pradesh by the Regional Co-ordinating Organisations, Baroda and Hyderabad and the State Malaria Organisations have revealed that *A. culicifacies* has high tolerance to DDT in some areas. This resistance is spreading over to contiguous areas in these States of Gujarat, Maharashtra and Madhya Pradesh. However, this phenomena has not hampered the progress of the programme.

No other vector has shown resistance to DDT.

The W.H.O. team in Baroda has reported that *A. annularis* is highly tolerant to DDT in four different areas of Panchmahal.

Incrimination of secondary vectors has assumed importance since mild malaria of low endemicity is usually transmitted by species having only slight contact with man and insecticides. Investigations of such vectors are in progress in West Bengal, Assam and Madhya Pradesh.

The situation regarding the malarious conditions in different States of India is detailed below:—

Andhra Pradesh—33.5 units functioned in the State out of which 9.0 were endemic and 24.5 hypo-endemic. 7.1 million houses were sprayed during the year under report covering a population of 35.5 million.

The proportional case rate of malaria was recorded to be 3.7 per cent during 1960-61 as compared with 7.1 per cent in 1958-59 and 8.7 per cent in 1953-54 thereby showing a reduction of 57.5 per cent in 1960-61 as compared to 1953-54. Child Spleen and Child Parasite rates were recorded to be 1.3 per cent. and 0.2 per cent. in 1960-61 and 18.3 per cent and 6.6 per cent in 1953-54. Infant Parasite rate was recorded to be 0.0 per cent in 1960-61 and 3.6 per cent in 1953-54.

Surveillance operations were instituted from October, 1960. Malaria is not a notifiable disease in this State.

Assam—13.25 units functioned in the State and all of them were endemic. 4.3 million houses were sprayed during the year under report covering a population of 11.1 million.

The proportional case rate of malaria was recorded to be 9.0 per cent during 1960-61 as compared with 23.2 per cent in 1958-59 and 35.4 per cent in 1955-56 thereby showing a reduction of 74.6 per cent in 1960-61 as compared with 1955-56. Child Spleen and Child Parasite rates were recorded to be 2.7 per cent and 0.6 per cent in 1960-61 and 24.0 per cent and 4.8 per cent in 1955-56. Infant Parasite rate was recorded to be 0.5 per cent in 1960-61 and 7.4 per cent in 1956-57.

Surveillance operations were instituted from December, 1960. Malaria is not a notifiable disease in this State.

Bihar—42.0 Units functioned in the State out of which 20.0 were endemic and 22.0 hypo-endemic. 8.3 million houses were sprayed during the year under report; covering a population of 42.1 million.

The proportional case rate of malaria was recorded to be 2.1 per cent during 1960-61 as compared with 6.7 per cent in 1958-59 and 20.6 per cent in 1955-56 thereby showing a reduction of 89.8 per cent in 1960-61 as compared with 1955-56. Child Spleen and Child Parasite rates were recorded to be 0.6 per cent and 0.01 per cent in 1960-61 and 56.1 per cent and 4.3 per cent in 1953-54. Infant Parasite rate was recorded to be 0.04 per cent in 1960-61 and 3.6 per cent in 1954-55.

Surveillance operations were instituted from September, 1960.

Gujarat—19.50 Units functioned in the State out of which 12.50 were endemic and 7.0 hypo-endemic. 3.7 million houses were sprayed during the year under report covering a population of 18.6 million.

The proportional case rate of malaria was recorded to be 1.1 per cent during 1960-61 as compared with 4.4 per cent in 1958-59 and 14.1 per cent in 1953-54 thereby showing a reduction of 92.2 per cent in 1960-61 as compared with 1953-54. Child Spleen and Child Parasite rates were recorded to be 0.2 per cent and 0.02 per cent in 1960-61 and 5.4 per cent and 2.7 per cent in 1953-54. Infant Parasite rate was recorded to be 0.0 per cent in 1960-61 and 2.1 per cent in 1953-54.

Surveillance operations were instituted from July, 1960. Malaria is not a notifiable disease in the State.

Jammu & Kashmir—2.0 Units were functioning in the States out of which 1.0 were endemic and 1.0 hypo-endemic. 0.2 million houses were sprayed during the year under report covering a population of 1.0 million.

The proportional case rate of malaria was recorded to be 2.4 per cent during 1960-61 as compared with 3.9 per cent in 1958-59 and 10.2 per cent in 1955-56 thereby showing a reduction of 76.5 per cent in 1960-61 as compared with 1955-56. Child Spleen and Child Parasite rates were recorded to be 2.3 per cent and 0.0 per cent in 1960-61 and 5.0 per cent and 1.3 per cent in 1955-56. Infant Parasite rate was recorded to be 0.0 per cent in 1960-61 and 0.0 per cent in 1955-56.

Kerala—14.50 Units were functioning in the State out of which 3.50 were endemic and 11.00 hypo-endemic. 209 million houses were sprayed during the year under report covering a population of 14.5 million.

The proportional case rate of malaria was recorded to be 0.06 per cent during 1960-61 as compared with 0.3 per cent in 1958-59 and 0.8 per cent in 1953-54 thereby showing a reduction of 92.5 per cent in 1960-61 as compared with 1953-54. Child Spleen and Child Parasite rates were recorded to be 0.9 per cent and 0.0 per cent in 1960-61 and 5.1 per cent and 1.3 per cent in 1954-55. Infant Parasite rate was recorded to be 0.04 per cent in 1960-61 and 0.05 per cent in 1954-55.

Surveillance operations were instituted from August, 1960. Malaria is not a notifiable disease in the State.

Madhya Pradesh—29.0 Units were functioning in the State out of which 26.5 were endemic and 3.5 hypo-endemic. 5.5 million houses were sprayed during the year under report covering a population of 28 million.

The proportional case rate of malaria was recorded to be 3.1 per cent during 1960-61 as compared with 5.5 per cent in 1958-59 and 18.2 per cent in 1953-54 thereby showing a reduction of 82.9 per cent in 1960-61 as compared with 1953-54. Child Spleen and Child Parasite rates were recorded to be 4.5 per cent and 0.1 per cent in 1960-61 and 34.7 per cent and 1.7 per cent in 1953-54. Infant Parasite rate was recorded to be 0.2 per cent in 1960-61 and 7.0 per cent in 1953-54.

Surveillance operations were instituted from August, 1960. Malaria is not a notifiable disease in the State.

Madras—31.45 Units were functioning in the State out of which 3.7 were endemic and 27.75 hypo-endemic. 6.8 million houses were sprayed during the year under report covering a population of 32 million.

The proportional case rate of malaria was recorded to be 0.3 per cent during 1960-61 as compared with 2.4 per cent in 1958-59 and 5.2 per cent in 1954-55 thereby showing a reduction of 94.2 per cent in 1960-61 as compared with 1954-55. Child Spleen and Child Parasite rates were recorded to be 0.02 per cent and 0.003 per cent in 1960-61 and 7.4 per cent and 2.7 per cent in 1954-55. Infant Parasite rate was recorded to be 0.0 per cent in 1960-61 and 0.7 per cent in 1954-55.

Surveillance operations were instituted from July, 1960.

Maharashtra—33.0 Units functioned in the State out of which 23.0 were endemic and 10.0 hypo-endemic. 6.4 million houses were sprayed during the year under report covering a population of 33.5 million.

The proportional case rate of malaria was recorded to be 1.1 per cent during 1960-61 as compared with 4.4 per cent in 1958-59 and 14.1 per cent in 1953-54 thereby showing a reduction of 92.2 per cent in 1960-61 as compared with 1953-54. Child Spleen and Child Parasite rates were recorded to be 0.07 per cent and 0.6 per cent in

1960-61 and 5.4 per cent and 2.7 per cent in 1953-54. Infant Parasite rate was recorded to be 0.02 per cent in 1960-61 and 2.1 per cent in 1953-54.

Surveillance operations were instituted from October, 1960. Malaria is not a notifiable disease in the State.

Mysore—19.13 Units functioned in the State out of which 14.63 were endemic and 4.50 hypo-endemic. 4 million houses were sprayed during the year under report covering a population of 20.7 million.

The proportional case rate of malaria was recorded to be 0.5 per cent during 1960-61 as compared with 1.5 per cent in 1958-59 and 7.1 per cent in 1953-54 thereby showing a reduction of 92.9 per cent in 1960-61 as compared with 1953-54. Child Spleen and Child Parasite rates were recorded to be 0.1 per cent. and 0.1 per cent. in 1960-61 and 6.0 per cent and 3.5 per cent in 1953-54. Infant Parasite rate was recorded to be 0.0 per cent in 1960-61 and 0.1 per cent in 1953-54.

Surveillance operations were instituted from July, 1960.

Orissa—14.5 Units were functioning in the State out of which 10.5 were endemic and 4.0 hypo-endemic. 2.4 million houses were sprayed during the year under report covering a population of 14.7 million.

The proportional case rate of malaria was recorded to be 5.7 per cent during 1960-61 as compared with 8.3 per cent in 1958-59 and 14.4 per cent in 1953-54 thereby showing a reduction of 60.4 per cent in 1960-61 as compared to 1953-54. Child Spleen and Child Parasite rates were recorded to be 5.8 per cent and 2.1 per cent in 1960-61 and 34.1 per cent and 2.0 per cent in 1953-54. Infant Parasite rate was recorded to be 0.3 per cent in 1960-61 and 4.1 per cent in 1953-54.

Surveillance operations were instituted from December, 1960.

Punjab—18.0 Units were functioning in the State out of which 11.0 were endemic and 7.0 hypo-endemic. 2.8 million houses were sprayed during the year under report covering a population of 14.1 million.

The proportional case rate of malaria was recorded to be 0.9 per cent. during 1960-61 as compared with 2.9 per cent. in 1958-59 and 7.7 per cent in 1953-54 thereby showing a reduction of 88.3 per cent in 1960-61 as compared to 1953-54. Child Spleen and Child Parasite rates were recorded to be 0.8 per cent and 0.08 per cent in 1960-61 and 6.1 per cent and 1.1 per cent in 1953-54. Infant Parasite rate was recorded to be 0.0 per cent in 1960-61 and 0.2 per cent. in 1953-54.

Surveillance operations were instituted from October, 1960.

Rajasthan—16.67 Units were functioning in the State out of which 9.67 were endemic and 7.00 hypo-endemic. 0.3 million houses were sprayed during the year under report covering a population of 18.5 million.

The proportional case rate of malaria was recorded to be 2.5 per cent during 1960-61 as compared with 9.5 per cent in 1958-59 and 11.1 per cent in 1955-56 thereby showing a reduction of 77.5 per

cent. in 1960-61 as compared to 1955-56. Child Spleen and Child Parasite rates were recorded to be 0.8 per cent and 0.02 per cent. in 1960-61 and 4.8 per cent and 1.3 per cent in 1953-54. Infant Parasite rate was recorded to be 0.03 per cent in 1960-61 and 0.0 per cent in 1953-54.

Surveillance operations were instituted from July, 1960. Malaria is not a notifiable disease in the State.

Uttar Pradesh—60.0 Units were functioning in the State out of which 40.0 were endemic and 20.0 hypo-endemic. 12.9 million houses were sprayed during the year under report covering a population of 65.5 million.

The proportional case rate of malaria was recorded to be 1.9 per cent. during 1960-61 as compared with 5.5 per cent. in 1958-59 and 14.9 per cent in 1953-54 thereby showing a reduction of 87.2 per cent in 1960-61 as compared to 1953-54. Child Spleen and Child Parasite rates were recorded to be 0.5 per cent and 0.01 per cent in 1960-61 and 13.6 per cent. and 5.4 per cent. in 1953-54. Infant Parasite rate was recorded to be 0.003 per cent in 1960-61 and 0.4 per cent in 1953-54.

Surveillance operations were instituted from December, 1960. Malaria is not a notifiable disease in the State.

West Bengal—26.0 Units functioned in the State out of which 23.0 were endemic and 3.0 hypo-endemic. 5.1 million houses were sprayed during the year under report covering a population of 26.6 million.

The proportional case rate of malaria was recorded to be 0.7 per cent during 1960-61 as compared with 2.5 per cent in 1958-59 and 27.1 per cent in 1953-54 thereby showing a reduction of 97.4 per cent in 1960-61 as compared to 1953-54. Child Spleen and Child Parasite rates were recorded to be 0.4 per cent and 0.007 per cent in 1960-61 and 20.3 per cent and 1.1 per cent 1953-54. Infant Parasite rate was recorded to be 0.0 per cent in 1960-61 and 0.0 per cent in 1954-55.

Malaria is not a notifiable disease in the State.

Delhi—2.00 endemic Units functioned in Delhi. 0.2 million houses were sprayed during the year under report covering a population of 1.2 million.

The proportional case rate of malaria was recorded to be 0.05 per cent during 1960-61 as compared with 0.2 per cent in 1958-59 and 0.9 per cent. in 1953-54 thereby showing a reduction of 94.4 per cent in 1960-61 as compared to 1953-54. Child Spleen and Child Parasite rates were recorded to be 0.05 per cent and 0.0 per cent in 1960-61 and 1.1 per cent. and 0.1 per cent in 1953-54. Infant Parasite rate was recorded to be 0.0 per cent. in 1960-61 and 0.0 per cent in 1953-54.

Surveillance operations were instituted from November, 1960. Malaria is not a notifiable disease in this Territory.

Himachal Pradesh—1.25 endemic Units were functioning in Himachal Pradesh. 0.2 million houses were sprayed during the year under report covering a population of 1.0 million.

The proportional case rate of malaria was recorded to be 0.3 per cent during 1960-61 as compared with 2.1 per cent in 1958-59 and 8.3 per cent in 1954-55 thereby showing a reduction of 96.4 per cent in 1960-61 as compared to 1954-55. Child Spleen and Child Parasite rates were recorded to be 0.08 per cent and 0.0 per cent in 1960-61 and 18.2 per cent and 30.1 per cent in 1953-54. Infant Parasite rate was recorded to be 0.0 per cent in 1960-61 and 4.0 per cent in 1955-56.

Surveillance operations were instituted from September, 1960. Malaria is not a notifiable disease in this Territory.

Manipur—2.00 endemic Units were functioning in this Territory. 0.2 million houses were sprayed during the year under report covering a population of 0.8 million.

The proportional case rate of malaria was recorded to be 2.3 per cent during 1960-61 as compared with 12.6 per cent in 1953-54 thereby showing a reduction of 81.7 per cent in 1960-61 as compared to 1953-54. Child Spleen and Child Parasite rates were recorded to be 1.1 per cent and 0.0 per cent in 1960-61 and 43.1 per cent and 0.0 per cent in 1953-54. Infant Parasite rate was recorded to be 0.0 per cent in 1960-61 and 0.8 per cent in 1954-55.

Surveillance operations were instituted from October, 1960. Malaria is not a notifiable disease in this Territory.

N.E.F.A.—1.50 Units functioned in N.E.F.A. out of which 1.00 was endemic and 0.50 hypo-endemic. 0.04 million houses were sprayed during the year under report covering a population of 0.2 million.

The proportional case rate of malaria was recorded to be 1.7 per cent during 1960-61 as compared with 16.4 per cent in 1957-58 thereby showing a reduction of 89.6 per cent in 1960-61 as compared with 1957-58. Child Spleen and Child Parasite rates were recorded to be 5.1 per cent. and 1.8 per cent in 1960-61 and 19.5 per cent. and 8.7 per cent in 1958-59.

Malaria is not a notifiable disease in this Territory.

Nagaland—1.00 endemic Units functioned in Nagaland. 0.06 million houses were sprayed during the year under report covering a population of 0.3 million.

Child Spleen and Child Parasite rates were recorded to be 21.4 per cent and 3.5 per cent in 1960-61.

Malaria is not a notifiable disease in this Territory.

Tripura—1.00 endemic Units were functioning in Tripura. 0.2 million houses were sprayed during the year under report covering a population of 1.0 million.

The proportional case rate of malaria was recorded to be 4.6 per cent during 1960-61 as compared with 8.8 per cent in 1958-59 and 30.1 per cent in 1953-54 thereby showing a reduction of 84.7 per cent in 1960-61 as compared to 1953-54. Child Spleen and Child Parasite rates were recorded to be 4.7 per cent and 0.7 per cent in 1960-61

and 55.8 per cent and 17.1 per cent in 1953-54. Infant Parasite rate was recorded to be 2.4 per cent in 1960-61 and 14.2 per cent in 1953-54.

Malaria is not a notifiable disease in this Territory.

Sikkim—0.50 endemic Units functioned in Sikkim. 0.03 million houses were sprayed during the year under report covering a population of 0.1 million.

The proportional case rate of malaria was recorded to be 1.1 per cent during 1960-61 as compared with 2.4 per cent in 1958-59 and 3.5 per cent in 1957-58 thereby showing a reduction of 87.1 per cent in 1960-61 as compared to 1957-58. Child Spleen and Child Parasite rates were recorded to be 7.5 per cent and 4.6 per cent in 1960-61 and 27.5 per cent and not detected in 1957-58.

Malaria is not a notifiable disease in this State.

Coal Fields—1.00 endemic Unit functioned in Coalfields. 0.2 million houses were sprayed during the year under report covering a population of 1.0 million.

The proportional case rate of malaria was recorded to be 0.3 per cent during 1960-61 as compared with 1.1 per cent in 1958-59 and 1.8 per cent in 1955-56 thereby showing a reduction of 83.3 per cent in 1960-61 as compared to 1955-56. Child Spleen and Child parasite rates were recorded to be 0.4 per cent and 0.0 per cent in 1960-61 and 1.3 per cent and 0.5 per cent in 1955-56. Infant Parasite rate was recorded to be 0.0 per cent in 1960-61 and 0.6 per cent in 1955-56.

Malaria is not a notifiable disease in this settlement.

RESPIRATORY DISEASES AND OTHER NOTIFIABLE DISEASES

A list of notifiable diseases in the various States/Union Territories of the country during the year under report is shown in Table 12.

It is well known that the registration of deaths is not recorded by definite cause of mortality for lack of proper diagnostic facilities. They are only recorded for some broad groups of diseases and by diseases of Cholera, Smallpox and Plague, which are notifiable throughout the country. Thus they only serve to indicate the magnitude of diseases included in the group rather than to provide the morbidity in respect of them.

The mortality statistics, recorded month-wise, from respiratory group of diseases (which include Pulmonary Tuberculosis, Bronchitis, Pneumonia Phthisis and Influenza), as far as available with this Directorate, is shown in Table 13.

In the Southern States *viz.*, Andhra Pradesh, Mysore, Kerala, Madras, Pondicherry the maximum incidence of the disease was recorded in the months of August, October, July, December and November respectively and in the North States *viz.*, Uttar Pradesh, Rajasthan, Punjab, Himachal Pradesh, Delhi, the months of peak incidence of the disease were December, February, December, February and December respectively. This shift between the period of

peak incidence in two extreme ends of the country shows an interesting gradual changes as may be seen from the following table :—

States	Months of peak incidence of the respiratory group of Diseases
1. Andhra Pradesh	August (1,665)
2. Assam	December (298)
3. Bihar	March (346)
4. Gujarat	May (3,402)
5. Jammu and Kashmir . . . . .	..
6. Kerala	July (1,216)
7. Madhya Pradesh	May (1,492)
8. Madras	December (4,306)
9. Mysore	October (1,400)
10. Maharashtra	November (5,886)
11. Orissa	September (568)
12. Punjab	December (3,976)
13. Rajasthan	February (420)
14. Uttar Pradesh	December (6,835)
15. West Bengal . . . . .	..
<i>Union Territories</i>	
1. Andaman & Nicobar Islands	May and August (7)
2. Delhi	December (495)
3. Himachal Pradesh	February (99)
4. Manipur . . . . .	..
5. Pondicherry	December (129)
6. Laccadive Islands . . . . .	..
7. Tripura . . . . .	..

Note.— .. Not available.

The figures in brackets above indicate the actual number of deaths occurred during the months of peak incidence of the disease. The deaths reported due to pulmonary tuberculosis, along with the rural and urban break-up of the disease and their corresponding percentages, are also shown in Table 14. The State of Maharashtra reported the highest mortality (14,765 deaths) due to pulmonary tuberculosis giving a percentage of 22.8 to total deaths due to the respiratory group of diseases in the country. The State of Bihar re-

corded the lowest number of deaths (99) due to pulmonary tuberculosis giving a percentage of 3.1 to total deaths due to the respiratory group of diseases in the country. The other States of Gujarat, Mysore, Uttar Pradesh, Madras, Kerala, Madhya Pradesh and Punjab also recorded the appreciable number of deaths due to pulmonary tuberculosis, which were of the order of 8,418, 6,718, 6,039, 2,685, 2,460, 1,846 and 1,496, respectively and the percentages thereof in relation to the total number of deaths due to the respiratory group of diseases respectively were of the order of 24.6, 44.3, 9.8, 6.6, 18.7, 11.6 and 4.3. Among the Union Territories, the maximum number of deaths (730) due to pulmonary tuberculosis were reported from the Delhi Administration followed by 225 deaths in the Pondicherry Administration and 69 deaths in the Himachal Pradesh Administration. The Andaman and Nicobar Islands recorded the minimum number of deaths (8) due to pulmonary tuberculosis giving a percentage of 13.3 to total deaths due to the respiratory group of diseases in the country. In total 50,541 deaths due to pulmonary tuberculosis occurred in whole of India constituting a percentage of 15.8 to the total deaths due to respiratory group of diseases.

The following table indicates the percentage of deaths due to respiratory diseases to total deaths recorded in the country during the year 1960 :—

States	Percentage of deaths due to respiratory group of diseases to total deaths
1	2
1. Andhra Pradesh	0.5
2. Assam	0.1
3. Bihar	0.1
4. Gujarat	1.0
5. Jammu and Kashmir	†
6. Kerala	0.4
7. Madhya Pradesh	0.4
8. Madras	1.1
9. Maharashtra	1.8
10. Mysore	0.4
11. Orissa	0.2
12. Punjab	1.0
13. Rajasthan	0.1
14. Uttar Pradesh	1.7
15. West Bengal	†

1	2
<i>Union Territories</i>	
1. Andaman & Nicobar Island	0.00
2. Delhi	0.1
3. Himachal Pradesh	0.02
4. Laccadive Islands	†
5. Manipur	†
6. Pondicherry	0.04
7. Tripura	†
TOTAL	9.0

† Information not available.

It is obvious from the above table that the heavy toll of deaths took place in the States of Maharashtra, Uttar Pradesh and Madras. In other States the deaths due to the respiratory group of diseases was not of much weightage in relation to all other causes of mortality. The percentage of deaths due to respiratory group of diseases to total deaths for whole of the country during the year under report was 9.0.

Typhus :

Typhus is one of the six quarantinable diseases and notifiable throughout the country according to the International Sanitary Regulations of the W.H.O., Geneva. Information regarding the morbidity of the disease is not available from any of the State or Union Territory in the country, which might be due to the fact that no proper diagnostic facilities were available. However, 5 and 4,438 deaths were reported due to Typhus from the States of Orissa and Uttar Pradesh respectively. All other States and Union Territories, except that of Bihar from where the information was not available were free from the disease during the year under report.

Enteric Fever :

Information on morbidity and mortality pattern of the disease is not available from all the States/Union Territories in the country due to the fact that it is not a registerable cause of death in the entire country. In the State of Andhra Pradesh, deaths due to this cause of sickness are only being registered in Municipal areas of Andhra Region and in the twin cities of Hyderabad and Secunderabad and Warrangal Municipality. No cause of death is registered due to this disease in the rural areas of the State. Thus the total deaths registered in the above areas during 1960 were 527 with a death rate of 0.13 per mille as against 458 deaths with a death rate of 0.125 per mille during the year 1959. Preventive measures such as disinfection of infected materials and chlorination of water supplies were promptly adopted by the Public Health staff of the State.

In Gujarat State during the year under report, 1,067 deaths due to enteric fever were registered as against 1,297 during the year 1959. The death rate was 0.1. The towns that reported high mortality from this disease were Mansa (4.2), Viramgam and Dehgam (3.3), Umreh (2.4), Kalol (2.3), Mehmedabad (1.8) and Petlad (1.7).

Usual measures of prevention such as T.A.B. inoculations, disinfection and chlorination of water supplies, fly control measures, concurrent and terminal disinfection and health education were carried out in the affected areas.

In the State of Rajasthan 22,243 cases and 244 deaths were reported from the various Hospitals and Dispensaries during the year under report. No survey or special investigation was undertaken to find out the incidence of this disease. The State of Mysore recorded 3,853 deaths during 1960 as against 4,330 during the year 1959 giving a death rate of 17.2 and 19.5 respectively. 153 deaths were recorded from enteric group of fevers in the Assam State as compared to 151 deaths in the previous year and 128 deaths in 1958.

In the State of Maharashtra, Enteric Fever accounted for 2,767 deaths during 1960, the death rate was 8 per million of estimated population. Information in respect of the remaining States and Union Territories was not available during the year under report.

Kala-Azar :

Information on morbidity and mortality pattern of this cause of death is not available from all the States/Union Territories in the country. In Andhra Pradesh, Kala-azar is not registerable cause of death. The Gujarat State was free from the disease during the year under report. No incidence of the disease was reported from Rajasthan State.

142 deaths from Kala-azar were registered in the State of Assam during the year under report as compared to 99 deaths in the previous year and 109 deaths in 1958. One death due to Kala-azar was reported in the Maharashtra State during 1960. The Union Territory of Himachal Pradesh was free from the disease. Information from other States and Union Territories was not available.

Cerebro-spinal Fever :

Separate statistics regarding cerebrospinal fever was not available from Andhra Pradesh as it is not registerable cause of death. In Gujarat State there were 72 deaths due to cerebrospinal fever as against 19 deaths during the previous year. The distribution of deaths were from Amreli rural areas reporting one death and rest of the deaths were from urban areas viz., Ahmedabad (39), Baroda (12), Surat (4), Mithapur (2), Surrindranagar (1), Jamnagar (3), Rajkot (9) and Bhavnagar (1).

890 cases and 34 deaths were reported from the various Hospitals/Dispensaries in the Rajasthan State during the year under report.

12 deaths were registered from cerebrospinal fevers in the State of Assam as compared to 38 deaths in the previous year and 22 deaths in 1958. 128 deaths due to cerebrospinal fever were reported in the State of Maharashtra. Majority of these deaths were reported from urban areas.

The Union Territory of Himachal Pradesh was free from the disease. Information from other States and Union Territories was not received during the year under report.

VENEREAL DISEASES

Venereal disease is one of the major public health problems. Compared to other communicable diseases venereal diseases remain below spectacular horizon with their invidious nature. However, evidences are ample to show that these diseases, particularly syphilis involves a tremendous loss of manpower, especially at an age when man's success of family and security is most needed and bring about much misery to the individual and to the family.

Recognising the importance of the control of venereal diseases on a national co-ordination basis, a Central Venereal Diseases Organisation with an Adviser in Venereal Diseases was set up in the Directorate General of Health Services in 1957. A Scheme was also included in the Second Five-Year Plan at a cost of Rs. 58.67 lakhs to the Central Government, with laboratories on an approved pattern. The Central Venereal Diseases Organisation is responsible for the implementation and co-ordination of the scheme. The fight against venereal diseases is mainly based on (1) Epidemiological measures, (2) improved diagnostic and therapeutic facilities (3) health education.

With the ultimate object of having a V.D. clinic at the Headquarters of each State, at the headquarters of every district and at important cities and industrial townships, a beginning was made by the inclusion of a scheme for control of venereal diseases in the Second Five Year Plan with the object of (1) establishing 8 such State headquarters clinics and 75 district headquarters clinics with laboratories on an approved pattern, (2) providing free supply of penicillin (PAM) to all these V.D. clinics and (3) training of personnel in V.D. control work, available at the Institute of Venereology, Madras and at the V.D. Training and Demonstration Centre, New Delhi.

The expenditure in respect of the scheme is shared between the Central and State Governments in the ratio of 3 : 1 in respect of non-recurring expenditure such as equipment and 50 : 50 in respect of recurring expenditure and training.

During the year under review, two State Headquarters Clinics and 20 District Headquarters Clinics were established. The total number of clinics established upto the end of the year 1960, being 5 State

headquarters clinics and 66 district headquarters clinics, are distributed as under:—

States/Union Territories	State Headquar- ters V. D. Clinics	District Headquar- ters V. D. Clinics
Andhra Pradesh	1	12
Assam	1	..
Andaman and Nicobar Islands . . . . .	..	1
Bihar	1	7
Himachal Pradesh . . . . .	..	7
Kerala . . . . .	..	4
Madras . . . . .	..	12
Mysore . . . . .	..	6
Tripura . . . . .	..	1
Uttar Pradesh . . . . .	..	2
West Bengal . . . . .	..	2
Punjab . . . . .	..	1
Jammu and Kashmir	1	2
Orissa	1	5
Association for Moral & Social Hygiene, New Delhi . . . . .	..	3
Maternity Hospital, Delhi . . . . .	..	1
TOTAL	5	66

Eleven clinics have already been sanctioned by the different State Governments and the plan target of establishing 8 State headquarters clinics and 75 district headquarters clinics was expected to be achieved before March, 1961. With the full establishment of these clinics there will be nearly 200 V.D. clinics in the country, especially in areas of high incidence. All these clinics have a uniform approved pattern in staffing, equipment accommodation, diagnostic procedures treatment policy and recording of cases. All the new clinics were urged to employ modern antibiotic treatment with PAM on accepted schedules. The one single STS recommended for routine testing is the VDRL cardiolipin slide test which has been found quite suitable, economical and easily performed. In some of the clinics and larger centres, other test like Kahn, Manicke, Wassermann etc., are also performed. The entire requirements of VDRL antigen were prepared by Antigen Production Unit, Calcutta and supplied to all the V.D. clinics and field projects free of cost.

During the year under report, over 2,36,000 patients were treated by 54 clinics reporting of which over 1,34,000 from Andhra Pradesh.

A mass V.D. Campaign was organised in the Kulu Valley of Punjab in 1959 and 77,413 persons were given treatment, 43,000 vials (10 c.c. each) of PAM supplied through UNICEF were expended during the year 1960. Four sub-clinics were established in the area to cover the persons missed in the survey. A resurvey was also carried out during 1960 in four areas where first survey was carried out a year before and in this resurvey as far as possible previous seropositive cases were included. The results obtained during these two surveys are mentioned below :—

Re-survey in Kulu Valley of Punjab.

	1959 Survey	1960 Survey
Primary Health Centre, Banjar	14%	12%
Primary Health Centre, Anni	18%	13%
Rural Dispensary, Naggar	22%	14%
Village Boosh	12%	10%

As this area is surrounded by the relatively highly infected places in the districts of Chamba, Mandi and Mahasu of Himachal Pradesh a concurrent anti-V.D. Campaign was also launched in the border areas of Himachal Pradesh. The average percentage of seropositivity in these areas was found to be 23.9 per cent.

Training :

1. Post-graduate diploma course in Venereal Diseases and refresher courses are given in the Institute of Venereology, Madras.

2. 36 medical and para-medical personnel were given refresher course to V.D. workers for different States at the V.D. Training and Demonstration Centre, Safdarganj Hospital, New Delhi-16, in the modern therapeutic, epidemiology and educational methods in the treatment of venereal diseases.

3. A large number of final year students of the Nursing College, trainees of the Orientation Centre, Sister-tutor and Midwives of the Nursing College and final year students of the Lady Reading Health School, Delhi, also attended periodically short term orientation course in V.D. control method.

Yaws :

Yaws teams were continuing their operations in the States of Madhya Pradesh, Andhra Pradesh and Orissa. In Orissa the number of teams were increased from 5 to 9 during the year under review. The Maharashtra Government have also joined the Anti-yaws

Campaign. The number of cases examined and treated by the teams were as follows :—

States and Years	No. of cases examined		No of cases treated	
	Initial survey	Re-survey	Initial survey	Re-survey
1. Andhra Pradesh				
1953—58.			52,835	
1959	127,275	131,955	7,565	2,129
1960	+	66,683	+	1,101
2. Madhya Pradesh				
1952—1958			52,511	
1959	83,021	28,293	1,617	735
1960	26,482	12,008	672	316
3. Orissa				
1956—58			7,661	
1959	220,071	88,709	3,522	537
1960	207,592	56,854	1,468	95

+Information not available.

With the technical approval of these projects by WHO, UNICEF supplied these teams with field equipment and jeeps.

The V.D. Training and Demonstration Centre, New Delhi :

The V.D. Training & Demonstration Centre, which started functioning since 1954 with the objectives of fostering modern medical and epidemiological principles in the prevention and control of venereal diseases, continued to be efficient in the management of patients and in the organisational standards of the centre during the period under report.

As in the previous years, Refresher Courses were conducted and consultative services were also extended to all Contributory Health Services Scheme Dispensaries and other hospitals.

Efforts to get more co-operation from Maternity and Child Welfare Centres under South Delhi Municipal Committee and other teaching institutions were continued during the period under report.

Special studies on some clinical problems, laboratory and socio-economic aspects of venereal diseases were conducted.

Equipment :

Certain routine items of stores were purchased during the period covered by this report.

The necessary antibiotics and other medicines for treatment of patients at the Centre were purchased out of the budget allocated for the Unit as in the previous year.

Clinic Activities :

As in previous years, consultation, treatment and laboratory facilities were given free to all patients in the Unit.

No dermatological cases were seen in this centre during the period as a separate Dermatology Department existed in the hospital.

The statements of the cases attended at the centre during the period is given below:—

Category						Adults		Children		Total		
						13 yrs. & above		12 yrs. & below				
						Males	Femals	Males	Females			
New	.	.	.	.	.	1,671	630	96	68	2,465
Old	.	.	.	.	.	5,058	1,802	148	210	9,128
TOTAL						.	.	8,729	2,432	244	188	11,593

The number of cases referred by the Contributory Health Services Scheme Dispensaries were 491 of which 212 were V.D. cases and 279 were non-V.D. cases.

A total quantity of 6,018 c.c. of PAM was used during the period under report.

Sulpha drugs, streptomycin, acromycin, aureomycin, bicillin (long acting penicillin) and other antibiotics were also given free to the patients as in the last years.

Laboratory Services :

All the serological tests for Syphilis and other tests were continued to be performed during the period under report.

As in the previous years, the V.D. Laboratory provided diagnostic facilities for the various dispensaries of the Contributory Health Services Scheme, other hospitals, ante-natal clinics, Vallabhbhai Patel Chest Institute and other V.D. Clinics of Delhi Municipal Corporation Delhi.

Epidemiological Information :

Clinic interviews and home visits for defaulters as well as contacts were continued during the period under report.

All the trainees including Medical Officers are being sent for epidemiological investigations along with the Health Visitors.

Training and Teaching Activities and Research :

The training programme had also continued during the year covered by this report. As in previous years, the main emphasis of the programme given to the trainees was in integrated outlook on V.D. problems and in production of plans of operation suitable under

different circumstances. They were also given training in the recent advances in the clinical, laboratory and public health aspects in this speciality.

In addition to the regular courses, facilities for orientation training were also given to the following institutions :

1. College of Nursing, New Delhi.
2. Lady Reading Health School, Delhi.
3. Orientation Training Centre, Najafgarh, Delhi.
4. Vallabhbhai Patel Chest Institute, Delhi.
5. Family Planning Centre, Yusuf Sarai, New Delhi.

10 Medical Officers, 9 Laboratory Technicians, 8 Public Health Nurses, and 9 Health Visitors were trained in V.D. during the year under review.

Besides, lecturers and demonstrations were imparted to the students of the following institutions :

- | | | |
|--|-------|---------------------------------------|
| (i) Staff Nurses of Safdarjang Hospital, New Delhi | . . . | 4 lectures |
| (ii) All India Institute of Sanitary Inspectors, New Delhi | . . . | 2 lectures
and
2 demonstrations |

The Central Health Education Bureau continued its assistance in giving lectures on "Health Education in Venereal Diseases" to the trainees of the Refresher Courses.

The Medical Superintendent, Lady Reading Health School, Delhi also continued to give a lecture on "Health Visits and Contact Tracing" to every batch of the trainees of the Refresher Course.

The activities of the States in respect of control of venereal diseases during the year 1960 is briefly stated below :—

Andhra Pradesh—A State V.D. Control office has been established with headquarters at the Osmania General Hospital, Hyderabad. Incidence of venereal infection in Andhra Pradesh is estimated to be 2,47,736. An amount of Rs. 4.69 lakhs was provided in Second Five Year Plan period for V.D. Clinics. During the Second Five Year Plan, 13 V.D. clinics were established all over the State and 5 were opened during 1960.

About 8 Medical Officers took their diploma in V.D. from Andhra and Madras Universities. 8 Assistant Surgeons not having V.D. qualifications were trained in 3 batches and all of them were posted in V.D. clinics at the District Headquarters Hospitals.

Assam—A Central V.D. clinic attached to the Assam Medical College in Dibrugarh continued to function for controlling V.D. in the State during the year under review. Some district V.D. clinics were also set-up and continued to function.

Bihar—There were seven V.D. clinics functioning at the District Headquarters at Darbhanga, Muzaffarpur, Monghyr, Bhagalpur, Arrah, Gaya and Dhanbad. These clinics were functioning well under venereologists and other staff serological and other pathological tests were done at the Public Health Laboratories established at the District Headquarters. 24 bedded V.D. Ward attached to the D.M.C.H.

and 50 bedded to P.M.C.H. functioned efficiently. In these two units service of specialists were also available to V.D. patients. In the year 1960 no more V.D. clinics were established.

The V.D. ward at Patna worked under senior and quicker Venereologists and specialised treatment was also done under that supervision. The refined complicated cases of V.D. were also diagnosed.

Kerala—A new V.D. Clinic, attached to the District Hospital, Palghat was started during the year under report. Specialised treatment for V.D. cases is imparted at the Medical College Hospitals of the State and also at District Hospitals.

Maharashtra—There were 16 beds available in the V.D. Department of the G.T. Hospital, Bombay during the year under report. The Government were providing funds for V.D. clinics in Bombay and also at the hospitals situated outside Bombay.

Madhya Pradesh—The V.D. patients were treated in all the 43 District Hospitals of the State. Besides, 14 special V.D. Clinics, one each at Ambikapur, Gwalior, Indore, Bhopal, Satna, Chhatarpur, Datia, Shahdol, Jhabua, Barwani, Pathalgaon (Raigarh District), Jagadapur, Mandla and Baihar (Balaghat District) continued to function during 1960. 5,491 V.D. patients were treated in these clinics during the year under report.

Mysore—There were 19 V.D. Clinics and Wards in the entire State during the year 1960 for free treatment of venereal diseases. The commonest of the venereal diseases met with were Syphilis and Gonorrhoea. Granuloma inguinale was the rarest. Apart from the clinics, patients were also treated as out-patient in almost all the Medical Institutions of the State. The number of beds provided were 73 during 1960 as compared to 49 in the preceding year. The number of in-patients and out-patients treated during the year in all the medical institutions of the State were 3,525 and 80,839 respectively.

Rajasthan—From the records of the hospitals and dispensaries it appears that the incidence of the venereal diseases was on the decrease in the State as a whole. During the year under report, there had been a considerable decrease particularly in early Syphilis cases as it is apparent from the fact that there were 3,697 cases in 1960 as against 6,424 in the year 1959. The sharp decrease in the early Syphilis may be due to the fact that most of the persons get their treatment from practitioners.

There was no separate hospital specifically meant for the treatment of venereal diseases. Four hospitals were provided with V.D. Clinics/Wards having 41 V.D. beds as compared to 38 beds for the disease in the previous year.

West Bengal—V.D. clinics were established in all the District headquarters hospitals and also in most of the Sub-divisional hospitals. Besides, two mobile V.D. units, one at Siliguri in the Darjeeling district and the other at Madarihat in the Jalpaiguri district functioned for the benefit of the tribal people.

There were 14 clinics in Calcutta, 32 in District Headquarters, 80 in Sub-divisions including 2 clinics (Dispensary-cum-V.D. Wing) which are meant for the tribal people in the State of West Bengal

functioning during the year under review for rendering medical aid to the patients suffering from different types of venereal diseases. Over and above the social workers are doing services by coming in contact with patients and members of their families. They are also carrying educative work on V.D.

Andaman & Nicobar Islands—The incidence of venereal diseases is quite low in this Territory except for Car Nicobar Group of Islands. A scheme with a capital outlay of Rs. 0.75 lakhs, exclusively for V.D. treatment in Nicobar Group of Islands was included in the Second Five Year Plan of these Islands and was implemented. One Lady Medical Officer for V.D. treatment was appointed during the year under report. 1,063 V.D. cases were treated at Car Nicobar during the year under review.

Delhi—11,888 cases of venereal diseases, both old and new, were attended to in out-patient department of Irwin Hospital, New Delhi. 6,369 cases were of Syphilis and 3,566 cases of Gonorrhoea and the rest were of other types. 125 cases were admitted in the in-door department, out of which 122 were cured.

Himachal Pradesh—Extension specialised facilities for V.D. Control were provided in the Himachal Pradesh Hospital, Snowdon, Simla during 1960. According to the targets, as envisaged in the Second Five Year Plan, two V.D. Sub-clinics were established in Rajgarh and Dadahu in Sirmur district. In all, 20 V.D. clinics were functioning in the Pradesh at the end of the year 1960. The total number of attendance in the V.D. Clinics was 5,75,251 of which 75,712 cases were treated.

The total number of sera tested in the clinics and in the fields were 31,765 and 22,718 respectively. Out of these 653 were positive in the clinics and 3,865 were positive in the field.

The sero-positivity rate has come down from 37.4 per cent in 1952 to 17.0 per cent in 1960.

Laccadive Islands—Venereal diseases are practically unknown in this Territory except in Minicoy Islands. In Minicoy Islands, most of the menfolk sailed to different countries and contacted the disease. Even here, however, the incidence of the disease is found to be negligible.

Manipur—The V.D. clinic established in this Territory started functioning from September 1960. Upto the end of the year under report, 440 samples of blood were taken for V.D.R.L. test and 47 smears for Gram negative Diplococci were examined. Out of these 157 samples were found of Syphilis, 25 of Gonorrhoea and 46 of Urethritis. Necessary treatment was given to the patients at the clinic.

Public Health Education and preventive measures were carried out. The clinic, in its initial stage, devoted mostly to survey works in the rural and backward areas of the Territory during the year covered by this report.

LEPROSY

Till recently, Leprosy was a neglected subject and did not receive general and wide-spread interest proportionate to the magnitude of the problem. Prior to independence, voluntary organisations

were mainly responsible for the anti-leprosy work in India. During the last decade, however, this problem has been engaging the increasing attention of the Government and the emphasis has shifted from institutional care to early detection and domiciliary treatment. Two main steps were taken by the Government of India to tackle the problem. One was the establishment of a Central Leprosy Teaching and Research Institute, Chingleput near Madras, for training leprosy workers and for conducting research on problems relating to leprosy. The second was to launch a National Leprosy Control Programme.

Leprosy Control Scheme started by the Government of India in collaboration with State Governments during the two terminal years of the First Five Year Plan, continued in the Second Five Year Plan.

In addition to 33 leprosy control centres established in the First Five Year Plan period, 85 more subsidiary centres have been established during the Second Five Year Plan period upto the end of December, 1960. Thus the total number of centres established in various States is given below :—

Union Territories	No. of centres established	
	Treatment and study centres	Subsidiary centres
1. Andhra Pradesh . . . . .	..	14
2. Assam . . . . .	..	1
3. Bihar . . . . .	..	17
4. Gujarat . . . . .	..	2
5. Himachal Pradesh . . . . .	..	3
6. Kerala . . . . .	..	3
7. Madhya Pradesh	1	4
8. Madras	1	13
9. Maharashtra . . . . .	..	17
10. Manipur . . . . .	..	3
11. Mysore . . . . .	..	8
12. Orissa . . . . .	..	15
13. Punjab . . . . .	..	2
14. Uttar Pradesh	1	7
15. West Bengal	1	5
TOTAL		114

.. Nil information.

So far, 118 centres have been established and the total population covered by these centres is 13 million.

The following progress has been reported from the above centres during 1960 :

The areas with a population of 1,27,84,129 covered by the centres were surveyed. Out of which the number of population surveyed and re-surveyed by the centres were 87,36,441 and 13,72,397 respectively. Amongst them 61,29,582 persons were examined by the centres. Out of the persons examined, 85,168 cases of leprosy were detected in the project area. The total number of known cases in the project area was 1,12,502 and the number of leprosy cases registered for treatment in the project area was 1,02,326, out of which 63,888 cases attended and were receiving treatment in the control centres during 1960, the percentage being 65. In addition to this, 2,85,296 healthy contacts were under observation and were periodically being examined.

The National Leprosy Control Programme is under the charge of a Director of Leprosy Control Work, who co-ordinates the activities of the various centres established in India through the State Health Directorates. The State Health Directorates are directly responsible for the proper functioning of these centres. The Director is attached to the Directorate General of Health Services, Ministry of Health, Government of India, New Delhi. For the establishment of these Control Centres, the Government of India gives 100 per cent. non-recurring grant for the purchase of transport and the remaining expenditure is shared by the State Government and the Government of India on the 50 : 50 basis.

A budget provision of Rs. 35 lakhs was made during 1960-61 as the Central Government's share of expenditure towards implementation of the scheme.

Scheme for the training of Medical Officers in Leprosy :

A Leprosy Training Centre was established at the Medical College and Hospital, Nagpur in collaboration with the Maharashtra Government. Upto the end of December 1960, four training courses were held and 50 Medical Officers from various States attended the training courses.

Another training course for Medical Officers in anti-leprosy work was arranged in collaboration with the Gandhi Memorial Leprosy Foundation, Wardha at their centre at Chilakalapalli in Andhra Pradesh in December, 1960. The Governments of Bihar, Kerala, Uttar Pradesh, West Bengal, Assam, Punjab and Tripura deputed one Medical Officer from each State to this course. These Medical Officers were specially trained so that they could start training courses for the para-medical workers in their respective States after receiving training.

A Leprosy Advisory Committee with the Union Health Minister as Chairman was constituted in February, 1958 to review the working of the Leprosy Control Scheme in different parts of the country and to suggest measures for the improvement of existing schemes. Besides, the Chairman, the Committee consists of representatives of the Government of India and leading voluntary organisations engaged in

leprosy work. The Committee held six meetings upto the period ending December, 1960. The recommendations made by the Committee have been circulated to the State Governments and the Central Government for necessary action.

The Government of India sanctioned grant-in-aid amounting to Rs. 8,20,775 to various voluntary institutions engaged in anti-leprosy work during the fiscal year 1959-60.

BLINDNESS AND EYE DISEASES

The incidence of blindness in India is the heaviest of all the countries in the world. The major reasons of blindness being Smallpox, Trachoma, Venereal Diseases, Ophthalmia Neonatorum, Leprosy, Cataract and Malnutrition. The blind population in India is 2 million approximately as against 10 million in the world as a whole. Experts are of opinion that more than half of the world's blindness is preventable. However, it is hopeful that people have become more and more eye conscious in the country and the Government are also alive to the welfare of the blind. Voluntary Organisations are also coming forward to take up the work for the prevention of blindness. In accordance with the direction of the World Health Organisation "April 7, World Health Day" is being observed all over the country as "Prevention of Blindness Day". The responsibility for combating of the eye diseases primarily rests on the State Health Departments. W.H.O. & UNICEF have offered assistance in the shape of medicine and expert advice to the country. Since independence, the welfare of the blind has been receiving the attention of the Government of India and State Governments in large measures.

Pilot Project for Trachoma Control :

The Government of India through Indian Council of Medical Research under direct technical supervision of the Director, Trachoma Pilot Project, Aligarh, technical advice of W.H.O. and UNICEF assistance in kind started Trachoma Pilot Project at Aligarh in October, 1956 which has been extending to various States in India. The activities during the year could be grouped under the following heads :—

- (i) *Epidemiological Studies.*
- (ii) *Field Trials.*
- (iii) *Health Education.*
- (iv) *Training in Trachoma Control Programme to personnel of various States.*

(i) *Epidemiological Studies*—District-wise survey of rural areas in the States of Bihar, Gujarat, Jammu & Kashmir, Maharashtra, Mysore and West Bengal was completed and was extended to the States of Punjab and Rajasthan. Attempts were made to initiate survey in Uttar Pradesh as well. The survey of other States was already completed in the previous year.

(ii) *Field Trials*—The field trials for mass campaign methodology in Trachoma Control were initiated in the States of Bihar and Punjab from June and August respectively. Only one unit in each of the States were established. Preliminary attempts were also successful

to open field trial units in Uttar Pradesh, Rajasthan and Madhya Pradesh. The necessary staff received training for field trial methodology at Aligarh in December, 1960.

(iii) *Health Education Activities*—The Publicity-cum-Health Education Officer was appointed in May, 1960. On the basis of plan for field trial activities, a plan for Health Education activities was prepared by the section in consultation with the Central Health Education Bureau. The plan had been supplied to the Field Trial Units. The section also prepared 7 posters and a pamphlet for use by the field trial units. Health Education was thus well integrated with the field trials.

A miniature socio-economic and cultural survey with selection to Trachoma was conducted in the rural areas in Community Development Block, Fatwa (Patna, Bihar) in June 1960 to supply material for drafting plan of Health Education activities.

A questionnaire for socio-economic and attitude survey to be conducted in all States covering larger information was also drafted.

(iv) *Training in Trachoma Control*—The training was organised from time to time which included the following:—

Medical Officers	Punjab	1
	Bihar	1
	Rajasthan	4
	Uttar Pradesh	4
	Gujarat	3
Health Educators	Punjab	1
	Rajasthan	2
	Gujarat	3

The activities of the States in respect of prevention and cure of eye diseases and blindness are summarised below :

Andhra Pradesh—There was one hospital for Eye treatment at Hyderabad viz, Sarojini Devi Eye Hospital and Institute of Ophthalmology, Hyderabad. This hospital is a teaching institution for graduates and post-graduate medical students. It is attached to the Osmania Medical College, Hyderabad. The bed-strength of the hospital during the year under report was 200. This Institution also catered the facilities for the purpose of clinical teaching to the undergraduates of Gandhi Hospital, Hyderabad. This is full-fledged hospital in the entire Andhra Pradesh equipped with the latest scientific apparatus and qualified medical men. The Sarojini Devi Eye Hospital has also launched a programme since 1960 to teach the technique in the re-fractionist work. Every year 10 to 15 students are admitted in the course and their services are being utilised either by the Opticians or Government in their different teaching institutions.

A touring Ophthalmic Dispensary is also attached to this institution for the purpose of making camps in the rural areas of the State and to serve the blinds therein.

Besides the above existing hospital, provision of the eye treatment was also made available in all teaching hospitals and District Headquarters Hospitals. For this purpose Ophthalmology wards and Ophthalmic clinics were provided with a staff qualified in Ophthalmology.

As far as rural areas in the State are concerned, the Primary Health Centres are the preliminary medical aid centre to provide preventive and curative facilities for the population residing in villages. Every effort is being made by the immediate Medical Officer posted to Primary Health Centre to cater the preliminary treatment, if possible by him then and there only. In cases of seriousness the patients are referred to the nearest hospital where such facilities are available.

Research on blindness is also being done in the teaching institutions of Eye Department under the Medical Colleges in this State.

Assam—In the State of Assam, 17,826 cases of minor eye complaints were treated in the various hospitals and dispensaries of the State. There were no separate eye hospital in the State except an Eye Ward attached to the Assam Medical College, Dibrugarh. Trachoma survey was conducted at the request of the Government of India through the Indian Medical Council of Medical Research.

Bihar—After survey work conducted by the National Trachoma Pilot Project, Bihar during the year under report, mass treatment of children suffering from the diseases was started with the help of one Medical Officer along with the auxiliary staff. Villages were divided in Zones for purposes of treatment and the scheme has given good results. Now survey work in another Block Phulwari sharif is to be taken up.

Eye relief work was organised during 1960-61 at different places in the States through official as well as non-medical agencies. Official Eye Relief Camps were held at Gaya, Ranchi, Arrah, Madhupur, Saharsa, Monghyr, Daltonganj, Dumka, Muzaffarpur, Chapra, Chai-basa at Government Hospitals located there. Relief was organised at those places through Blind Relief Camps sanctioned exclusively for these purposes, the duration of camps varied from one month to 4 months according to local needs.

Societies and charitable organisations also organised Eye Relief work at different places. Blind Relief Camps were organised by the Gram Panchayats also with the local aid in shape of accommodation and other auxiliary services, deputation of ophthalmic surgeons and supply of drugs and equipments was done and made by the State Government.

A sum of about Rs. 40,000 was spent over organisation of such official camps.

Gujarat—The State had been organising by itself and also with aid to the Voluntary Organisations for conducting Eye Relief Camps in the rural areas. The Gujarat State Council for prevention of blindness has been making earnest efforts to establish one such unit by raising donations etc. The post-graduate training facilities in Ophthalmology to medical personnel was provided. Eye patients are being treated in hospitals and dispensaries of the State.

Kerala—There was one Ophthalmic Hospital in Trivandrum. Besides, facilities for treatment of eye diseases in all the District Hospitals of the State were available during the year under report. No mobile units or eye relief camps were in existence. There was no school for the blind maintained by the Health Department but there were schools for the blind under Education Department.

Madras—Survey conducted shows the incidence of Trachoma is only about 5 per cent. and this is not a problem in the State.

The Government Ophthalmic Hospital, Madras is an institution, attached to the Madras Medical College, Madras for the teaching of Ophthalmology to the under-graduates and post-graduates, for the diploma in Ophthalmology and Master of Surgery Degree Examination of the University of Madras.

Proposals for establishing a Mobile Ophthalmic Unit, attached to each of the Government Ophthalmic Hospital, Madras and Erskine Hospital, Madurai for eye relief to the village surrounding Madras and Madurai respectively were approved and the Mobile Ophthalmic Units are now functioning.

Arrangements for starting a school of opticians, attached to the Government Ophthalmic Hospital, Madras, are being done and an instructor, who had training in Optometry at the School of Optometry, Sitapur, returned after completing the training successfully. The School will start functioning shortly.

Madhya Pradesh—Trachoma is one of the major public health problems in the State. A pilot project under the auspices of the Indian Council of Medical Research was sponsored in the State. There were two teams each under a Medical Officer. Two vehicles were provided by the UNICEF, 322 sample villages of 43 districts were selected for the survey. Out of this 275 villages of 38 districts were completed during the year under report.

The incidence of the disease was found to be ranging from 14 to 75 per cent in the State.

Eye Camps were held at 9 different places. 7,935 patients were treated and 1,913 operations were performed.

Maharashtra—During 1960, the Government Eye Bank at J.J. Group of Hospitals, Bombay was established. This Bank was the first of its kind in this State and probably seventh in the world.

One of the most important functions of the Eye Bank is to collect, preserve eye tissues (Cornea, Sclera, etc.) for grafting purposes and also to educate the public by necessary propaganda for donating their eyes after death. It has also supplied two preserved scleras to other hospitals in the City on their request.

The sources of collecting such material are unclaimed persons (through the Coroner of Bombay) beggars homes, persons dying at hospitals, voluntary donors etc. By the end of the year 1960, Eye Bank had collected 43 eye balls or corneas (including 5 Cornea donated by U.S.A.).

Till the year ending 1960, 23 corneal grafting were successfully performed. 19 corneas, 25 scleras and 24 vitreous were preserved by modern technique and stored there at the Eye Bank for later use.

Eye Camps were held at Kolhapur and Parbhani Districts. The Camp at Kolhapur was held with the Co-operation of the Local Doctors, Institutions and Poona Ophthalmic Society. The Camp was a grand success.

During the year 1960 the Surgical Camps were also conducted at Ambajogai, Bhir district and Karad, South Satara district.

Mysore—In the whole of enlarged Mysore State there was one Minto Ophthalmic Hospital at Bangalore. In this Hospital the sanctioned bed strength was 205. The total number of in-door and out-door eye patients treated in the institution during 1960 were 5,497 and 50,020 respectively. Besides, there was one Mobile Ophthalmic Unit at Mangalore and 18 wards attached to some of the important major institutions and district hospitals in the State.

An institution "School for Deaf and Blind Boys, Mysore" was imparting general education to the boys through the Braille System. The number of children studying in this institution was 63 during 1960. There were three more institutions in the State, *viz.*, Vocational Institute for Women, Mysore; School for the Blind, Hubli, and School for the Deaf and Blind, Gulbarga for the purpose of education and rehabilitation of the blind children.

Orissa—There were no special camps, units or hospitals specifically for eye treatment. Specialised services were available in the Medical College and Hospitals of the State.

Punjab—The Punjab Health Department continued to make every possible effort to provide adequate facilities to the population suffering from eye diseases in the State during the year under review. In order to cater to the needs of patients at places, where no eye hospitals existed and for the people of far flung areas, the Punjab Health Department organized Eye Relief Camps with the following objects in view :—

- (i) to relieve curable blindness ;
- (ii) to eradicate diseases which cause blindness ; and
- (iii) to take measures for prevention of blindness.

There were in all 24 Medical Institutions functioning in the State during the period covered by this report which provided the treatment exclusively meant for eye patients. The number of beds available in these institutions was of the order of 1,663.

Rajasthan—The geographical conditions in Rajasthan State are very much responsible for the prevalence of eye diseases. In the western part of Rajasthan State trachoma with its complication was fairly common. There was no special mobile team functioning for trachoma control work during the year under report but adequate treatment was being given to such patients in General Hospitals and Dispensaries. However, a doctor was deputed for training under Trachoma Pilot Project at Aligarh under the Indian Council of Medical Research.

Eye Departments under the specially trained doctors were provided in 13 big hospitals by the Government. Total number of beds reserved for eye patients were 425 in these institutions. In other institutions also eye patients were admitted against general beds. The

total number of eye cases treated in all State Public Hospitals and Dispensaries during 1960 were 9,16,010 and 10,932 in the Out-door and In-door Departments respectively. Surgical Eye Camps were held in 13 places where 1,666 eye operations were performed during the year under review.

West Bengal—There was no Government Eye Hospital, exclusively meant for eye patients in this State. An Institute of Ophthalmology was started in the compound of the Medical College and Hospitals, Calcutta. But facilities for treatment of eye diseases existed in the following hospitals during the year under report :

1. Eye Infirmary Medical College Hospital, Calcutta	4 cabins 135 beds.
2. Nilratan Sircar Medical College Hospital, Calcutta	26 beds
3. Sambhunath Pandit Hospital, Calcutta	4 beds
4. Howrah General Hospital (No separate beds are available . . but cases are treated in Sugrical Ward).	
5. Birbhum District Hospital	6 beds
6. Bankura Sammilani Medical College Hospital	12 „
7. Jalpaiguri General Hospital	10 „
8. Berhampore District Hospital	28 „
9. Walse Hospital, Serampore, Hooghly	9 „
10. B. C. Hospital, Burdwan	9 „
11. R. G. Kar Medical College Hospital, Calcutta	38 „
12. Upendra Nath Mukherjee Memorial Hospital, Calcutta (Non- Government).	2 „
13. Mayo Hospital, Calcutta	10 „
14. Islamia Hospital, Calcutta	9 „
15. Chittaranjan Hospital, Calcutta	25 „

Three Travelling Eye Dispensaries subsidised by Government had also worked in the rural areas of the State and they have been rendering very useful service in curing eye diseases and in preventing blindness.

Andaman and Nicobar Islands—There was no hospital or clinic exclusively meant for treatment of eye disease in the territory. The necessity of the same was also not felt to any great extent as the incidence of eye diseases was very small in magnitude. However, all cases of eye diseases were attended to in different General Hospitals properly and complicated cases were always referred to the Mainland Eye Hospitals for specialised treatment mostly at Government expense. The incidence of trachoma is very low in this territory. There was no school for blind during the year under report.

Delhi—The Department of Ophthalmology, Irwin Hospital, New Delhi attended to 13,966 new and 15,689 old eye patients. 1,212 major and 876 minor eye operations were performed. In the survey conducted by the Municipal Corporation of Delhi, consisting of a Dental

Surgeon, Ophthalmic Surgeon and other doctors, 3326 students (boys 2,926 and girls 400) were found to be defective due to various eye diseases out of 21,743 students (11,606 boys and 10,138 girls) in 71 Schools (35 boys and 36 girls) in the areas of Jama Masjid and Darya Ganj during the year under report.

Himachal Pradesh—There was no eye hospital functioning in this Pradesh. All routine cases, however, were treated and provided with necessary facilities. An Eye Camp was held in Kinnaur district during the year under report in which 30 cases were operated and 275 cases were provided with treatment. All the patients were given free treatment and diet.

Laccadive Islands—There were no eye relief camps, special eye hospitals or mobile eye units in this Union Territory. According to a Rapid Health Survey, conducted during 1960, it was revealed that the incidence of trachoma was 0.96 per cent. No blind school had functioned in this Territory.

Manipur—Eye Relief Camps were held at Imphal, Ukhrul and Churachandpur with the assistance of the Gandhi Eye Hospital, Aligarh at the invitation of the Chief Commissioner, Manipur. The team from the Gandhi Eye Hospital was led by the eminent Surgeon assisted by the local trained Medical Officers and also by one Theatre Assistant, one Compounder and one Refractionist for the duration of the camp and the rest of the staff along with medicines and equipment etc., were supplied by the Medical Department of this territory. More than 3,000 cases attended the Out-patient Department of which 395 were admitted for operation and treatment. One Eye Unit in the Civil Hospital manned by local staff duly trained was established and it had worked satisfactorily.

Pondicherry—There was no eye hospital in this territory. Treatments in this field are done in the Ophthalmology Department of the General Hospital.

Tripura—No separate eye hospital existed in this territory, but there were two Mobile Eye Dispensaries under the control of the Tripura Territorial Council. These dispensaries visited all the Sub-Divisional Headquarters by rotation so that they could extend their services to all eye patients. These dispensaries are run by qualified Medical Officers. They have played an important role in fulfilling the largely felt necessity of qualified eye doctors in the rural areas. There was no arrangement for training of the blind under the Council during the year covered by this report.

TUBERCULOSIS

Tuberculosis is one of our biggest problems and we have tried to evolve a national plan for its progressive control by BCG Vaccination on the one hand and by enlarging the curative institutions on the other.

Disappointment at the slow progress of the anti-tuberculosis programme during the Second Five Year Plan period was expressed by the Central Council of Health at its session held in Jaipur in October, 1960.

It is obviously impossible with the 141 sanatoria and hospitals, 375 clinics and wards, and a bed strength of a little more than 32,500 to cope with the ravages of the tuberculosis, entailing as it does an estimated incidence of about 5 million and a mortality of about 5,00,000 every year. One plan in the first instance is to have at least one clinic in every district and also to undertake, wherever it is possible, mass screening and treatment on an extensive scale. For the control of the disease, the steps emphasised were mainly towards detection and treatment. But, at present, efforts are also made to educate the public on various aspects of the disease and its prevention. It has become obvious that the economic conditions of our country would not permit the provision of treatment facilities in hospitals and sanatoria on a large-scale. Alternate and less costly methods have to be found. Emphasis has now to be on prevention of the disease and the treatment of the patients in their homes. The number of persons tuberculin tested etc., in the various States/Union Territories in the country is shown in Table 15.

BCG Vaccination in Tuberculosis Control Programme :

BCG Programme was started in India in 1948 on a small scale with the help of the International Tuberculosis Campaign and later of the W.H.O. and the UNICEF. In 1949, it was extended to include organized groups such as school children and factory workers in large towns of the country. In 1951, the programme was organised on a mass scale to cover the susceptible population, particularly those below the age of 25, estimated at 170 million. 170 BCG Teams, each consisting of one team leader and six technicians, are working in the country. Upto the end of December 1960, the number of persons tuberculin tested was about 158.86 million of whom about 55.82 million were vaccinated. The target of 170 million tests has been achieved by the end of the Second Five Year Plan to the extent of 96.2 per cent (163 million tests). A portion of this coverage (estimated at between 50 and 60 million), however, belongs to age-groups over 25 years and this was not included in the original target of 170 million. During the Third Five Year Plan period the Campaign is proposed to give more stress on coverage of children below 15 years. It is estimated that this group will be between 100 and 120 million. This includes those, who were born since 1951, and those who have been missed during the previous years' Campaign. Mass Campaign is, therefore, being continued in Third Five Year Plan and will be mainly concentrated on children below 15 years.

The transport position in the BCG Campaign improved considerably during the year 1960. This improvement was mainly due to a large number of obsolete vehicles having been replaced by new jeeps and prompt supply of spare parts out of the UNICEF stocks. The States have also improved the arrangements for repairs and maintenance of the vehicles.

The Central BCG Organisation continued to co-ordinate the Campaign in the States and assist them with the supply of statistical forms. Publicity materials like films, film strips, pamphlets, brochures, booklets, posters and other literature on tuberculosis are supplied free of cost to the States.

The UNICEF have been supplying public address equipments, vehicles and vaccination kits for the Campaign. Some of the older Cinema Units have also been replaced.

With a view to improve the standard of performance of the BCG workers, training courses have been started at the National Tuberculosis Institute, Bangalore and the first course was started in October, 1960. The second course is expected to start in November, 1961. The scheme for subsidy to States for intensification of BCG Campaign was extended to cover the grant of stipends for training at the National Tuberculosis Institute, Bangalore, of doctors, non-medical team leaders and technicians working in the States.

Tuberculosis Demonstration and Training Centre :

The five Tuberculosis Demonstration and Training Centres, established at New Delhi, Patna, Trivandrum, Nagpur and Hyderabad with the assistance of WHO/UNICEF, continued to function during the year under report. The T.B. Chemotherapy Centre, Madras, continued with their research work during the year. X-ray and Laboratory equipment at a cost of Rs. 2 lakhs have been supplied for a centre to be established at Patiala.

Under the plan of operation for the National T.B. Programme signed by the W.H.O., UNICEF and the Government of India in June 1959, three more centres are to be established with the aid of WHO/UNICEF; one of them, the Lady Willingdon T.B. Clinic at Bangalore, has been upgraded as a State level centre to function as an adjunct to the National Tuberculosis Institute, Bangalore. The Centres at Agra and Calcutta are under establishment and UNICEF equipment for these centres is expected shortly.

Research in Tuberculosis :

(a) Tuberculosis Chemotherapy Centre, Madras :

The Madras Chemotherapy Centre, which was started under the auspices of the Indian Council of Medical Research with the assistance of WHO and BMRC, has continued research and has published many valuable papers. The work in this Centre has been commented upon very favourably by international medical press.

During the year 1960, the patients in the home and hospital series completed a second year of treatment and a report on the findings has been published in the WHO bulletin. An analysis of the prevalence of tuberculosis in the contacts of these patients and the attack rates during a year of follow-up has also been published. These reports indicate that in the second year patients treated at home in the first year fared as well as patients treated in sanatorium and that they did not expose their contacts to any special risk in the first year.

A comparative study of virulence of British and Indian strains of tubercle bacilli was completed and report published.

Studies of serum isoniazid continued throughout the year. A pilot intake of patients to a study of the prevention of isoniazid peripheral neuritis was undertaken in association with the Nutritional Research Laboratory, Hyderabad. This study is in progress.

The follow-up studies are progressing accordingly to schedule and the present phase of the investigation is expected to be completed by the middle of 1963, although some of the studies already in progress will be completed only by the middle of 1966.

(b) Madanapalle Tuberculosis Research Unit:

The Tuberculosis Field Research Programme at Madanapalle continued to be in operation under the auspices of the Indian Council of Medical Research during 1960. The major activities of the Unit are at present two-fold:—

- (i) To find out the effect of domiciliary drug therapy on a Community basis with the minimum of supervision.
- (ii) To follow-up the effect of the Tuberculosis Control Programme in the Madanapalle Town and village study population, which has been in operation since 1948.

After preliminary survey in 12 towns the main study on the effect of treatment through domiciliary service has not started and work will continue for at least three years when the data will be analysed and results known.

(c) BCG Assessment Team :

Since August 1955, a team under the I.C.M.R. has been retesting persons vaccinated in the Mass BCG Campaign to find out whether the desired degree of allergy needed for protection against tuberculosis, has been achieved.

This work has shown that vaccination is producing adequate degree of allergy.

During the year under review the team also studied some other aspects of BCG vaccination in relation to Indian conditions, e.g., the prevalence of Non-specific tubercular reaction in certain areas in India. These studies are expected to be continued for several years, especially because the mass BCG vaccination campaign will be carried out during the Third Plan period also.

The Lala Ram Sarup Tuberculosis Hospital, Mehrauli, Delhi :

This hospital was started in 1953 by Tuberculosis Association of India, with the help of grants from the Government of India.

This hospital has at present 306 beds out of which 54 beds are for treatment of tuberculous children and 52 beds for isolation of advanced T.B. patients. Though the hospital is administered by the Tuberculosis Association of India, the expenditure in excess of income from paying patients is borne by the Government of India.

The Union Mission Sanatorium, Madanapalle :

With the assistance of Government of India, a Children's section and a Thoracic Surgical section started in this Sanatorium. The Government of India meets 50 per cent of the recurring expenditure on the maintenance of the 76 bedded Children's Hospital and maintaining 8 beds at the Thoracic Surgery Centre in this institution. This institution is also an all India Training Institution for doctors and technicians working in the laboratory and Community Tuberculosis

Control Programme. An average of about 12 doctors, 10 laboratory technicians and a considerable number of nurses and other technicians are trained annually.

Establishment of T.B. Isolation Beds :

A sum of Rs. 50 lakhs was provided for establishment of about 4,000 tuberculosis isolation beds in various States during the Second Five Year Plan period. The Central Government was to meet 50 per cent of the cost of establishment of these beds subject to a maximum of Rs. 1,250 per bed. For 1960-61, the Government of India approved 146 beds, bringing the approved grand total of beds to 4,766. Though no exact information regarding the number of T.B. isolation beds actually established by each State is available, it is estimated that about 3,417 T.B. isolation beds were established during the Second Five Year Plan period.

To utilise the anticipated Second Five Year Plan savings under the Anti-T.B. Schemes, a scheme for establishment of open air centres for isolation of T.B. patients under the auspices of State T.B. Associations and other voluntary agencies was approved by the Government of India and a token provision of Rs. 5 lakhs was made in the budget for 1960-61. Under the scheme of open air centres, the Central Government's assistance would be limited to 50 per cent of the cost of establishment to a maximum of Rs. 1,250 per bed only.

Tuberculosis Clinics :

T.B. Clinics are to serve as the pivot round which tuberculosis control schemes revolve. They have to serve diagnostic, advisory and public health needs. The clinics have to undertake domiciliary treatment. It was accordingly planned to establish or upgrade 300 T.B. clinics during the Second Five Year Plan so that every district has at least one T.B. clinic. The responsibility of upgrading the existing clinics and the establishment of new ones primarily rests with the State Governments but the Government of India provide X-ray and laboratory equipment costing about Rs. 50,000 to each clinic. Sixty sets of X-ray and laboratory equipment were supplied to 60 T.B. clinics during 1957-58 to various States, and so far the equipment has been installed at 53 T.B. clinics. The Government of India approved 36 and 56 T.B. clinics during 1958-59 and 1959-60 respectively but the progress has been slow.

Under the National T.B. Control Programme the UNICEF was to supply equipment to 20 approved T.B. clinics during 1960-61. There has been some delay in the supply schedule and it is expected that equipment for all the 20 clinics would be received by the end of 1961-62.

A request for the supply of another 20 sets of X-ray and laboratory equipment has already been sent to UNICEF and it is expected that the UNICEF will be able to supply this equipment during 1962.

With a view to give impetus for the establishment of the required number of T.B. clinics under the National Programme, a proposal for grant of additional central assistance towards the cost of construction of buildings and in the shape of supply of free antibiotics to approved T.B. clinics recommended by the States during 1960-61 is under consideration. (The supply of drugs was approved and a portion of these was supplied to the States in March 1961.)

After-care and Rehabilitation Centre for Ex-T.B. Patients :

After-care and Rehabilitation Centres for Ex-T.B. patients to teach them handicrafts such as tailoring, paper making, embroidery, soap making, basket making etc., which they can continue in their homes as a cottage industry has been accepted by the Government. The Scheme envisages payment of a stipend upto Rs. 40 per month to each trainees during the period of training and a Rehabilitation grant of Rs. 200 per trainee to enable him to start the trade after the training is over. The cost of each centre is estimated at Rs. 3 lakhs non-recurring and Rs. 1 lakh recurring per annum.

The After-care and Rehabilitation Centre at Tambaram (Madras) has been established. The building of Rehabilitation Centre at Dhubulia (West Bengal) has been completed and necessary steps are being taken to implement the scheme with the required staff and equipment. Construction of the New Delhi After-Care and Rehabilitation Centre has been completed and the equipment is under procurement. The construction of buildings for the Rehabilitation Centres at Amargarh and Hyderabad is nearing completion. For the rehabilitation centre to be established at Lucknow, blueprint of additions and alterations and the new work sheds has been approved and construction is expected to start soon.

Relief to Indigent Displaced T.B. Patients from West Pakistan :

A budget provision of Rs. 8.25 lakhs has been made for 1960-61 for providing relief to indigent displaced tuberculous patient from West Pakistan.

523 beds in the various T.B. Hospitals and sanatoria of the States have been reserved as shown below :

States and Sanatoria	Beds
<i>Punjab</i>	
1. T. B. Hospital, Chetru	100
2. Gulab Devi T.B. Hospital, Jullundur	50
3. T. B. Hospital, Sangrur	50
4. Lady Irwin Sanatorium, Jubar	40
5. L. L. Sanatorium, Kasauli	10
6. Christian General Hospital, Palwal	20
<i>Uttar Pradesh</i>	
1. Bhumidhari Annexe Bhowali Sanatorium.	23
<i>Bombay</i>	
1. Central Hospital, Ulhasnagar Township, Kalyan	50
2. T.B.. Hospital, Aundh Camp, Poona	60
3. T. B. Hospital, Bantwa	25
<i>Rajasthan</i>	
1. K.G.V. Sanatorium, Jaipur	15
2. T.B. Hospital, Durgapur	35
3. Madar Union Sanatorium, Madar, Ajmer	45
TOTAL	523

Cash grants are also given to indigent displaced T.B. patients in the following cases :

- (a) Those who receive treatment as out-door patients ;
- (b) Those who are kept on the waiting list until they are admitted to a T.B. Hospital/Sanatorium for regular treatment ;
- (c) Those who need financial assistance on any other special ground (i.e., travel expenses etc.) ;
- (d) Those who are discharged from a T.B. Hospital/Sanatorium but need financial assistance for special diet etc.

Depending on the merits of each case, the amount of cash assistance to such patients varies upto a maximum of Rs. 30 per month subject to periodical scrutiny of medical report. The cash assistance ceases as soon as the patient is admitted in a T.B. Hospital/Sanatorium and during his stay there.

The allocation of grants to various States for the purpose of cash assistance during 1960-61 is as shown below :—

States	Allocation
Punjab	20,000
Bombay	6,000
Rajasthan	20,000
Madhya Pradesh	6,000
Uttar Pradesh	10,000
Gujarat	4,000
TOTAL	66,000

Medicines are also supplied by the Directorate General of Health Services to the various T.B. clinics for supply to indigent T.B. patients free of cost.

BCG Vaccine Laboratory, Guindy, Madras :

The BCG Vaccine Laboratory, Guindy, Madras, established in 1948 by the Central Government with the help of UNICEF and WHO is the world's largest BCG producing centre. The Laboratory continued to supply tuberculin and BCG vaccine free to all the States and other institutions engaged in mass BCG campaign in India throughout the year. During the year under report 31,046,642 c.c. of tuberculin and 16,989,972 c.c. of BCG vaccine were produced by the Laboratory. During the same period, 12,836,500 c.c. of tuberculin and 4,667,987 c.c. of BCG vaccine were supplied to indentors in India while 2,481,215 c.c. of tuberculin and 1,832,230 c.c. of BCG vaccine were supplied to foreign countries, namely, Afghanistan, Ceylon, Burma, Pakistan and Malaya.

Plants for the manufacture of freeze-dried vaccine at the laboratory have been installed. Trials on freeze-dried vaccine are being

carried out in the laboratory at present and it is expected that by the middle of 1961, manufacture of dry vaccine on a larger scale will be started.

National Tuberculosis Training Institute, Bangalore :

The National Tuberculosis Institute, Bangalore, was established by the Government of India in March 1959 for the training of T.B. workers required for manning the T.B. clinics/centres established under the T.B. Control Programme. UNICEF/WHO continued to offer assistance in the shape of equipment and personnel for this centre. The Institute was inaugurated by the Prime Minister on the 16th September, 1960. Most of the National and International staff are in position. Certain necessary additions and alterations to the building and laboratory have been carried out. A temporary hostel for trainees to provide accommodation for 81 trainees has been completed.

A training course for BCG workers consisting of 34 BCG technicians, 3 non-medical team leaders and 3 medical leaders was held in October, 1960.

A provision of Rs. 6 lakhs exists in the budget for the year 1960-61 and a provision of Rs. 7.22 lakhs towards recurring expenditure has been proposed for the year 1961-62. Administrative approval for construction of permanent hostel has been accorded. The construction of this hostel, staff quarters, approach roads, vehicle sheds is proposed to be taken up during the year 1961-62.

As tuberculosis has to be tackled in an organised, systematic, intensive and sustained manner on a countrywide basis, an essential requirement is provision of suitably trained personnel in adequate numbers, in other words a cadre of highly trained tuberculosis workers is needed. It is to meet this purpose that the National Tuberculosis Institute has been planned.

The National Tuberculosis Institute aims at training workers so as to ensure that facilities for prevention and treatment are brought to the community. Field work is the keynote of training at National Tuberculosis Institute and the workers are trained to deal with the problem of tuberculosis in the homes of the people and to evolve methods to deal with the problem on a community basis.

The activities in respect of control of tuberculosis in different States are briefly stated below :

Andhra Pradesh—By the end of December, 1959, the first round of Mass Vaccination was completed in the entire State and the second round was started from January, 1960 throughout the State with 15 BCG teams. Vaccination of new born was in progress in the maternity wards of Niloufer Hospital, Government Maternity Hospitals, Hyderabad and Gandhi Hospital, Secunderabad.

A pilot T.B. survey in High Schools was taken up in 29 selected schools in Hyderabad City. 7,705 students of 12-16 years age-group were visited by the BCG staff of whom 6,105 got tested with P.P.D.

1. Positive to test with BCG scars	•	•	•	•	•	•	•	1,485
2. Positive without scars	•	•	•	•	•	•	•	1,836
3. Negative to the test	•	•	•	•	•	•	•	1,836

The negatives were vaccinated with BCG. Both the positive groups were X-rayed with M.M.R. by the staff of Dabirpura T.B. Centre and 60 cases with suspicious shadows in the units were bacteriologically investigated.

BCG vaccination of school children in Nizamabad and Mahboobnagar districts was conducted as per the particulars below :—

District	No. of students	Total tested	Total vaccinated
Nizamabad	8,500	6,507	2,271
Mahboobnagar	5,258	4,193	2,240

Assam—The State Government appointed one Provincial Tuberculosis Officer to supervise the work on Tuberculosis in the State. The BCG work was carried out smoothly. The Lokpriya Gopinath Bordoloi T.B. Hospital in Gauhati functioned satisfactorily during the year covered by this report.

Bihar—Incidence of T.B. was high throughout the State. Government opened T.B. Wards, Hospital, Sanatoria, Centres and Clinics for control of this disease. The State Government also opened four big hospitals for treatment of the diseases which are enumerated below :—

1. T.B. Demonstration Centre, Patna.
2. T.B. Demonstration Centre, Darbhanga.
3. T.B. Sanatorium, Itki.
4. T.B. Hospital, Koilwar.

25 T.B. clinics were opened throughout the State which covered the areas of all Sadar and some divisional places. The domiciliary services were prevalent in these clinics.

The number of beds available for T.B. patients all over the State was 852. More beds will be available during the Third Five Year Plan period. Poor T.B. patients were given cash grants for bearing nutrition diet and medicines for which a sum of Rs. 20,000 is spent every financial year.

Eighteen BCG Teams functioned in the State and were engaged in the second round of vaccination over a large area of the State. During 1949 to November, 1960, 2,14,51,180 were given tuberculine tests and among them 92,87,406 were vaccinated with BCG.

Gujarat—Most of the Schemes proposed in the First and Second Five Year Plans for the control of Tuberculosis have either been completed or would be completed before the close of the Second Five Year Plan. 50 additional beds were established at K.J. Mehta T.B. Hospital, Amargadh. A 150 bedded T.B. Hospital started functioning during 1960-61.

The upgrading of the present existing T.B. Clinics at Bhavnagar, Limbdi and Junagadh was done. The T.B. Clinic at Surat started functioning during 1960-61.

During the Third Five Year Plan programme it is proposed to provide 139 additional T.B. beds and to establish 2 T.B. Clinics in the Gujarat State. In all there were six clinics run by the State Government with the equipment provided by the Government of India in six Civil Hospitals of the State. There were about 1,364 T.B. beds, including those of in the institutions run by the grant-in-aid voluntary organisation, to cater to the needs of T.B. patients in the State and about 8 small scale clinics, of course, not strictly in accordance with the standard prescribed by the Government of India. They might not be called fullfledged clinics at all in the strict term of the pattern laid down by the Central Government.

Kerala—The number of T.B. hospital in the State was 3 as in the previous years. They are viz., T.B. Hospital, Pulayanaikottah, Trivandrum with 248 beds for in-patients treatment, Kerala Varma Sanatorium, Mulankunnathukava, Trichur district with 288 beds and T.B. Sanatorium, Pariyaram, Cannanore district with a bed strength of 196. There were 7 T.B. Clinics and one T.B. Demonstration and Training Centre in the State. There were 1,026 beds for treatment of patients in various institutions including T.B. hospitals, clinics and other institutions. Construction of additional clinics and isolation wards in T.B. hospitals were in progress. The number of T.B. patients treated during the year in the above three T.B. hospitals was 2,400 in-patients and 37,280 out-patients. In all 13,806 T.B. patients were treated and 2,02,384 as out-patients in the various institutions of the State during the year under report.

Five teams, each consisting of one team leader and six technicians, were working in the State for the BCG Campaign work. The total number of tuberculin tested and the number of persons vaccinated from the on-set of the campaign reached 55,17,200 and 23,10,407 respectively.

Madhya Pradesh—2 T.B. Clinics viz., one at Bhopal and the other at Jabalpur were upgraded.

The progressive total of tuberculin tested and vaccinated came to be 95,94,580 and 32,76,241 respectively. BCG work was mainly carried out in rural areas.

T.B. Clinics at Indore, Ujjain and Dewas started testing patients suffering from tuberculosis during the year covered by this report. The Central BCG Organisation, New Delhi not only supplied the publicity materials, BCG bulletin, BCG vaccine and tuberculin free of charge but also the technical assistance and guidance in the BCG Campaign, whenever required by the State Health Directorate were rendered.

Military Hospital personnel at Mhow, Gwalior and Sagar were trained in BCG vaccination.

Madras—The Tuberculosis out-patient chiefly consists of patients with chest symptoms. After investigations, which include Radiographic, Fluoroscopic and Laboratory examinations, those cases which are diagnosed as pulmonary tuberculosis cases are given the necessary chemotherapy, Dihydrostreptomycin, P.A.S. and S.N.H. and their progress recorded. The sputum of several cases are sent to the King Institute, Guindy, Madras for culture and report. Names of suitable cases were included in the waiting list and admissions were made as

per their turn in the list. A case sheet was maintained for each out-patient. The out-Tuberculosis Chest cases were given necessary treatment as out-patients. By adequate chemotherapy in the out-patients, it has been possible to get quite considerable amount of improvement in the patients both clinically and radiographically.

Tuberculosis cases were visited* by Health Visitors and also by the Medical Officers. Advice was given to patients regarding preventive measures etc., such as isolation disposal of sputum and diet. The contacts were kept under observation and advised to have check up once in three months and whenever they get persistent cough and temperature. Contact children with negative tuberculosis tests were advised to take BCG vaccination.

Maharashtra—After the bifurcation of old bilingual Bombay State as on 1-5-1960, 9 BCG teams and 2 publicity units out of 23 and 4 respectively were transferred to the Gujarat State. The remaining 14 teams and 2 publicity units were retained in Maharashtra State of which 8 teams were in Western Maharashtra, 2 teams were in Marathawada region and 4 teams were in Vidarbha region. The Publicity Unit worked in Western Maharashtra and Marathawada while the other one worked in Vidarbha region. In addition to the above Government teams, there were also Central and Municipal area teams working in Poona, Jalgaon and Nasik districts of the State. They were financed by the Municipalities and other Government Institutions.

In the year 1960, mass BCG Vaccination Campaign was in progress in a number of districts of Maharashtra State. In the Western Maharashtra, the whole area was covered by the round except two talukas of Kolaba district. In Vidarbha region out of 8 districts, 6 were covered up, while the remaining two districts viz., Bhandara and Chanda were partially covered. In Marathawada region of 5 districts, Osmanabad district was covered, while the rest ones were only partially covered. It was difficult to cover up the interior rural areas during rainy season. The second round of BCG vaccination was carried out in the following districts :

Bombay, Satara, Nasik, Sholapur, Kolhapur, Sangli, Nanded, Aurangabad, Yeotmal, Buldhana and Akola.

The number of persons tuberculin tested, vaccinated during the year under report is given below:—

Categories	First round	Second round
Total tested	7,91,001	5,38,595
Total positives	3,38,523	1,98,504
Total negatives	2,96,582	2,52,555
Total vaccinated	2,89,734	2,50,158

The number of new-born infants protected against tuberculosis by BCG vaccination during 1960 was 21,683.

Mysore—During the year 1960, a T.B. clinic was established at Hubli. 50 isolation beds for incurable T.B. cases were added at the Government T.B. Sanatorium, Bangalore. The maintenance of 100 additional beds at the S.D.S. Sanatorium, Bangalore and also the work of T.B. Demonstration and Training Centre, Bangalore was continued. An After-care and Rehabilitation Centre for ex-T.B. cases was also established at Bangalore.

Sanction was accorded for construction of a ward of 50 beds for isolation cases at S.D.S. Sanatorium, Bangalore and for construction of buildings for T.B. clinics at Mandya and Hassan districts of the State.

The number of teams sanctioned under the Mass BCG Vaccination Scheme was 10. A sum of Rs. 2,45,686.83 was spent on BCG Vaccination Programme during the year 1960-61.

Orissa—T.B. was one of the major problems in the State. The Mass BCG Programme revealed positive reaction in children bearing 12-13 years of age and 24 per cent of children in age-group of 0-6, 7-14 and 0-14 respectively from which the problem and the magnitude is well apparent. There were 2 T.B. Hospitals at Chandpur and Uditnarayanpur having 180 and 35 beds respectively. There were also 7 T.B. clinics in 7 districts and 5 other T.B. Isolation Centres in 5 districts of the State. 9 BCG teams functioned during the year under report. The statistics of the work done by these units is as follows :—

Starting test	6,95,864
Completing test	5,08,551
Positives	2,40,063
Negatives	2,64,181
Vaccinated	2,53,689

Punjab—Nine T.B. Hospitals/Sanatoria with a total bed strength of 1,326 continued functioning in the State during the year covered by this report. There were 18 T.B. Clinics and 1 T.B. Centre in the State. Besides, out-patient departments of Government T.B. Sanatorium, Tanda and Harding Sanatorium, Dharampur, were also serving as T.B. Clinics. All these clinics were equipped with X-ray and laboratory facilities and were carrying on modern diagnosis and treatment of tuberculosis. These clinics had 243 beds for short term admission. Out of these clinics, 7 were carrying on some domiciliary treatment on limited scale. The Punjab Government sanctioned a grant-in-aid of Rs. 1,45,000 for the non-Government T.B. Clinics in the State during the year under report.

Training :

The Diploma course in Tuberculosis Disease (D.T.D.) was started in 1949 at Medical College, Amritsar and the students are given post-graduate training there. Training to the BCG Technicians was also given at the T.B. Centre, Patiala. The lectures and demonstrations in Tuberculosis were also given to the students of Medical College and also to the Assistant Surgeons, who came for Refresher Course at the Government Medical College, Amritsar and at T.B. Centre, Patiala.

In the Clinical Section of the T.B. Centre, Patiala, 55,584 patients (both old and new) were handled in the out-patients section. Out of 13,120 new cases 2,890 were diagnosed to be suffering from pulmonary tuberculosis, 199 non-pulmonary and 10,031 from other diseases. 388 tubercular patients were admitted on the observatory beds. Out of these, 191 cases were much improved, 130 improved, 37 discharged otherwise and 5 died on account of advanced disease. 25 patients were carried over to the next year. One Medical Officer and five health visitors had kept themselves engaged in the implementing of organised home treatment as well as domiciliary treatment with Isonicotinic Acid Hydrazide tablets under the plan sponsored by the Government of India with the help of the W.H.O. and UNICEF. 5,626 home visits were carried out and 1,336 contacts were examined. 755 mantoux positive were tested and 200 cases were given BCG vaccination.

Rajasthan—To meet out the increasing tuberculosis cases there were 18 medical institutions with 921 beds dealing specifically with tuberculosis in the State in 1960 as compared with 669 beds in 1959. One private T.B. Sanatorium *viz.*, Madar Unions Sanatorium, Ajmer with a bed capacity of 350 is included in the above figure. During the year under report, T.B. Hospital, Durgapur, Jaipur district was closed down and one T.B. clinic was opened in Beawas, Ajmer district. T.B. Hospital at Bari, Udaipur district was upgraded as provincial T.B. Sanatorium named as S.R.B. Bhuwalka Yaxma Arogya Sadan with 200 beds for indoor patients. Besides, 20 isolation beds for advanced T.B. cases had been provided in General Hospitals at Ajmer, Alwar, Bharatpur, Dungarpur, Ganganagar, Jhalawar and 10 isolation beds in Tonk district.

The T.B. Clinic, Udaipur, which was upgraded by the Central Government and equipped with laboratory equipment and Odelca camera, had been doing mass survey of patients in the city.

General hospitals and dispensaries also rendered medical treatment to T.B. patients.

One BCG unit with 11 teams were set up in the State during the Second Five Year Plan period. It has been working in various districts of Rajasthan State. Educative drive against tuberculosis was carried out as usual by Audio Visual means and by exhibitions.

Uttar Pradesh—16 BCG Vaccination Teams functioned in this State during the year under report. These teams worked in the following districts of the State and immunised the population against tuberculosis with BCG vaccination:—

1. Bareilly.
2. Agra
3. Lucknow
4. Kanpur
5. Jaunpur
6. Jhansi
7. Ballia
8. Jalaun
9. Mainpuri

10. Gonda
11. Azamgarh
12. Gorakhpur
13. Mirzapur
14. Etawah
15. Deoria.

They also conducted day to day publicity thereby educating the masses in the rural and urban areas on prevention of tuberculosis. They also gave talks to the masses on the efficacy and utility of BCG vaccination. The progressive total of the persons tuberculin and tested since the beginning of the Mass BCG Vaccination Campaign in the State was of the order of 1,58,02,839 and 44,12,502 respectively.

West Bengal—Tuberculosis is a major public health problem in the State of West Bengal as in other parts of India. It is estimated that in this State alone there are at least six lakhs of tuberculosis cases and about one-third of them are possibly cases of open tuberculosis. Apart from consideration of the patients' early diagnosis and treatment, the social and economic implications of the disease have also to be considered. With this object in view, some priority to T.B. control schemes has been given in the overhaul health planning of the State.

This campaign is in operation in this State since April, 1949 in collaboration with the WHO/UNICEF and the Government of India. Fifteen Mass Campaign Teams and one non-Mass Campaign Team, carried out BCG vaccination work in different parts of this State.

At present 52 Chest Clinics both Government and non-Government functioned during the period covered by this report.

9 Mobile Domiciliary Units functioned in this State *viz.*, 4 in Calcutta and 5 in Moffussil. Two Mobile Mass Miniature Radiography Units are expected to be sanctioned this year for case finding programme and contact survey in Calcutta.

In all there were 4,142 T.B. beds in West Bengal both in Government and non-Government Institutions.

T.B. patients admitted free in hospitals were treated with free supply of drugs. Besides, arrangement has been made for supply of medicines such as Streptomycin, P.A.S., I.N.H. to indigent T.B. patients attending out-patient department through the Government institutions.

A T.B. Training and Demonstration Centre, equipped with Radiography sets and high grade research laboratory with facilities for training of T.B. workers such as T.H.V., Social Worker, Public Health Nurses etc. and also for demonstration of modern methods of treatment and prevention of tuberculosis were sanctioned.

Two vehicles were received for BCG vaccination work from UNICEF.

Andaman and Nicobar Islands—A 18 bedded ward, attached to the Bambooflat Hospital, functioned on the other side of the harbour about 28 miles from the Main Town, Port Blair. Though the ward

is 18 bedded, but accommodation upto 50 patients is available. All Islands whether they are indigenous population or imported from mainland for service etc., who are suffering from T.B., are admitted here till they are cured or otherwise discharged. The supply of drugs are absolutely free during admission as well as after discharge.

The BCG Campaign started functioning in this Territory since March, 1959.

Delhi—The New Delhi Municipal Committee in the Union Territory of Delhi had no T.B. Hospitals or T.B. Sanatoria of its own. However, 4 beds in T.B. Hospital, Mehrauli were reserved for the employees of the New Delhi Municipal Committee. 5 T.B. Health Visitors were working in New Delhi Municipal Committee area who carried out the domiciliary treatment of T.B. patients.

In the Union Territory of Delhi, the BCG Vaccination Campaign was continued during the year under report. 20,41,714 persons were tuberculin tested upto the end of the year 1960 since the inception of the BCG vaccination campaign in the Union Territory of Delhi, of whom 4,48,826 were given BCG vaccination. The BCG Team also covered 104 schools in 1960 and Rs. 38,333.86 was the expenditure incurred on the activities of the BCG vaccination campaign. In addition to the Delhi BCG Team, the Rama Krishna Mission, Free Tuberculosis Clinic, Karol Bagh, the Silver Jubilee Tuberculosis Clinic and Hospital, the Municipal Tuberculosis Clinic, Queens Road, the Shahdara T.B. Clinic and the New Delhi Tuberculosis Centre continued to carry out the BCG vaccination throughout the year under report.

Himachal Pradesh—The T.B. survey and domiciliary care programme continued during the year under report in addition to the following tuberculosis institutions :—

1. T.B. Sanatorium at Mandedhar.
2. T.B. Wards at Mandi, Chamba and Nahan—one in each district.
3. T.B. Clinics at Mandi, Chamba, Nahan, Bilaspur and Simla—one in each place.

In Bilaspur district 10 isolation beds for T.B. patients were added excepting Pangi Sub-Tehsil. The BCG Team in the Pradesh completed its second round and covered the following targets :—

Cases treated	43,721
Positive cases	11,427
Vaccinated	20,534

Laccadive Islands—There were no clinics, hospitals or sanatoria for the treatment of tuberculosis in this Union Territory. One BCG team visited the Islands and conducted a mass vaccination campaign. The Research Officer, BCG, Bangalore has intimated that the BCG vaccination need to be conducted for the coming three years in these Islands. The disease rate of tuberculosis was found to vary between 1.09 per cent. to 3.84 per cent. as per the Rapid Health Survey conducted during the year covered by this report.

Manipur—The T.B. Hospital functioning in this Territory since 1939 was properly staffed, equipped and upgraded to 100 bedded T.B. hospital during the Second Five Year Plan period. 40 steel beds and 40 Ward lockers were purchased for the comfort of the bed-ridden patients and one Phillips Radio and certain entertaining items, like reading materials and a few indoor games were provided for the recreation of the patients.

During 1960, BCG Mass Vaccination was confined more in the interior of the hills and rural areas where no progress could be made in the first and second rounds due to bad road condition.

Pondicherry—The Mass BCG Vaccination Campaign started in this Administration in January, 1959, will continue to operate during the Third Five Year Plan period, with special care to a particular age group of 1-15 years. One team consisting of a doctor, six technicians, had training in the BCG vaccination from Hyderabad.

Sanction was received for the establishment of a T.B. Clinic at an estimated cost of Rs. 1.12 lakhs. The proposed T.B. Sanatorium at an estimated cost of Rs. 24.42 lakhs will have accommodation for 110 beds. The work for its construction is in progress.

Tripura—There was no T.B. Hospital under the Tripura Territorial Council nor there was any provision of T.B. beds in the General hospitals of this Administration, specific drugs for T.B. patients were distributed to the patients through out-door dispensaries. The BCG Vaccination Campaign was operated in this Administration with the help of a BCG team consisting of one team leader and 8 BCG technicians. 50,285 persons were tested of whom 13,805 persons were vaccinated during the year covered by this report.

CHAPTER III

PROGRESSIVE HEALTH ACTIVITIES IN THE STATES

1. Health Activities.
2. Water Supply and Sanitation.
3. Field Practice Areas.
4. Primary Health Centres.
5. Medical Inspection of School Children.
6. Industrial Health.
7. Health in Jails.
8. Fairs and Festivals.
9. Nutrition and Welfare Food.
10. Adulteration of Food.
11. Railways Health Services.
12. Health Education.

HEALTH ACTIVITIES

The following is a brief description of the health events that took place in different States/Union Territories of the country during the year covered by this report.

Andhra Pradesh—The total number of Maternity and Child Health Centres in the State was 859 (including primary health centres and their Sub-Centres). During the year 1960 the schemes for training of 90 Health Visitors at each of the 24 Health Schools at Hyderabad and Visakhapatnam in the State were implemented. 151 candidates could be admitted to the training during the year under report. 974 indigenous dais were recruited and trained in clean midwifery scheme during the year under plan scheme of training of indigenous dais for which central assistance is forthcoming. 9 general trained Nurses were oriented in Public health at Niloufer Health School under the Plan Scheme.

During the year under report, 87 rural family planning clinics were added to the already established rural family planning clinics, which were 89 in number. The target fixed up for the Second Five Year Plan period was 176 rural family planning clinics. With the opening of 87 clinics the target had been achieved. During the year under report 4 Medical Officers, 2 Social workers and 21 Health Visitors have received training in family planning techniques.

A Central Nutrition Laboratory was established in the Directorate of Public Health for providing facilities for Nutrition Service Programmes. The Laboratory is being equipped with necessary chemicals and other equipments. The work relating to analysis of local food-stuffs both cooked and raw were undertaken during the year under report. Prior to the formation of Andhra Pradesh there were two different sets of Acts and rules in Andhra and Telengana areas. These Acts and Rules continue to be in force in the respective areas even after the formation of the State of Andhra Pradesh. As two different sets of Acts and Rules could not continue to be in force for long in the two regions of the same State, the necessity for bringing about uniformity in the various Acts and Rules was keenly felt. At the instance of the Government proposals were submitted for integration and for extension of the various Acts relating to the Public Health Department for approval.

The Government of Andhra Pradesh agreed with the suggestions of the Government of India for the establishment of working committee for laying down policies and giving decisions on the various points that may be cropping up from time to time for the implementation of National Malaria Eradication Programme and constituted the working committee in May 1959.

By the end of December, 1959 the first round of mass BCG Vaccination was completed in the entire State and the second round of vaccination was started from January 1960 throughout the State with 15 BCG teams. A Pilot Study was taken up in 29 schools out of the 150 schools in the twin cities of Hyderabad and Secunderabad.

Assam—The medical and public health departments were amalgamated during the year under report. The Assam Food Adulteration Rules were enforced. The Government appointed one Public Health Engineer along with the staff under him. The existing hospitals and dispensaries, as usual, continued to work. Necessary preventive measures were taken by the staff of the Directorate of Health Services, Assam State, Shillong to check the spread of the epidemics and communicable diseases in the State. In the medical education programme, the Assam Medical College at Dibrugarh with 110 intake capacity along with 700 beds attached to the College with specialised treatment facilities, functioned satisfactorily. Another Medical College was started in Gauhati town during the year under review.

Gujarat—The number of seats in the Medical College at Jamnagar was increased from 60 to 100 and 20 more seats were increased in B.J. Medical College, Ahmedabad in order to meet the growing demands for medical personnel in the State. The expansion programme of the Civil Hospital at Godhra was stepped up and enhanced by providing about Rs. 10 lakhs more for the purpose and by revising old plans and estimates. The new Mental Hospital at Jamnagar was started with 50 beds.

After the formation of the new Gujarat State that came into existence on 1-5-1960, there were 2 separate organisations under 2 different heads of Departments *viz.*, (1) Directorate of Medical Services and (2) Directorate of Public Health. In the Medical Directorate, the Director of Medical Services was the Head of the Department assisted by the Deputy Director of Medical Services, Superintendent of Nursing Services and others in the Directorate. At the divisional level there were 2 Offices of Deputy Directors of Medical Services which were abolished during the year under report. The Director of Medical Services had 3 Medical Colleges, Civil Surgeons or Heads of Districts, Superintendents of T.B. Hospitals, Superintendents of Mental Hospitals, one District Medical Officer and one Chief Medical Officer and Administrative Officer, Employees' State Insurance Scheme. The Medical Institutions, the Medical Colleges and teaching hospitals except Baroda and Jamnagar Districts, which were placed under the administrative control of the Director of Public Health, were under the control of the Director of Medical Services.

To increase the curative facilities in rural areas of the State Cottage Hospitals were established, posts of subsidised medical practitioners were created to provide medical aid for those who are living in areas far off from the established medical centres. A few hospitals were provided with ambulance services for quick transport of the sick patients.

Kerala—The important achievement towards the preventive side is the implementation of the scheme for the eradication of small-pox. The pilot project, which was a part of the preparatory measures needed to embark on the National Small-pox Eradication Programme during the Third Five Year Plan, was started. Considering the high and frequent incidence of small-pox in the Kozhikode district three taluks of the district, covering a population of about 12 lakhs, were selected for the implementation of the scheme. 80 per cent. of the population were protected by vaccination. The number of vaccination

per Health Assistant per working day was 95. The staff verified 57.3 per cent. of primary vaccinations and 21.9 per cent. of re-vaccinations. The percentage of success in primary vaccination was 99.6 and in re-vaccination was 69 per cent. The per capita expenditure worked out to be 25 NP. 14 new dispensaries were opened during the year 1960-61. Additional Wards were opened in institutions to facilitate in-patients treatment in specialised cases and for general cases. 6 Primary Health Units were opened.

Madhya Pradesh—The expansion of the health services during the year under report was as follows :—

- (a) One hospital at Govindpur (Bhopal) was opened ;
- (b) Two dispensaries—one at Piplani (Bhopal) and one at Kalapipal (Shejapur)—were opened ;
- (c) Three Dental Clinics were established one each at District Hospital, Shahdol, Satna and Chhatarpur. Four Rural Dental Clinics were established ;
- (d) 29 Primary Health Centres were established ;
- (e) 6 Urban and 63 Rural Family Planning Clinics were established ; and
- (f) Four Regional Laboratories at Rewa, Gwalior, Raipur and Jabalpur and one District Laboratory at Chhatarpur were established.

The following Acts of this Department, already proposed for extension in the whole State, were under active consideration of the State Government :

- (a) The C.P. Medical Registration Act, 1916, (I of 1916) to be called M.P. Medical Registration Act ;
- (b) The M.B. Nurses, Midwives and Health Registration Act, 1955 (II of 1955) ;
- (c) The C.P. and Berar Ayurvedic and Unani Practitioners' Act, 1948 (IV of 1948) ;
- (d) The M.B. Nursing Homes Registration Act, 1954 (24 of 1954) ; and
- (e) The C.P. and Berar Village Sanitation and Public Management Act (II of 1920).

Maharashtra—The District Health Officer Scheme was introduced in Osmanabad District in Marathawada Region. The B.D.V. Act, 1892 is being enforced in more and more rural areas of the State. The State Family Planning Board was created for co-ordination and speedy implementation of the Family Planning Programme in the State of Maharashtra. The Board met twice in the year 1960. A committee for the co-ordination of activities connected with the UNICEF skimmed milk distribution scheme at the district level was formed. Similarly a committee at State level was also formed. A Leprosy Advisory Board was functioning at State level. A Committee on Smallpox Eradication and Malaria Eradication were functioning at State level in Maharashtra State. For under developed areas and for benefit of backward areas, 3 Mobile Medical Units were working in the Aurangabad, Nanded and Chanda districts of the Maharashtra State. In collaboration between the Government of India and UNICEF, Anti-Yaws Scheme had worked in Chanda district of Maharashtra State. 16 yaws cases were detected during 1960.

Mysore—9 medical institutions were opened in the various districts of the Mysore State. Special equipments, furniture, books etc., worth nearly Rs. 40 lakhs, required for the Hospitals and Medical and Dental Colleges were sanctioned by the State Government during 1960-61. Two Ambulance Vans were supplied i.e., one to Government Hospital, Udipi and the other to Maternity Hospital, Malleswaram, Bangalore City during the year under report.

As a preliminary step towards the amalgamation of both the Medical and Public Health Departments and with a view to facilitate proper distribution of medical relief in the rural areas, the dispensaries which were under the administrative control of the Medical Department, were transferred to the Public Health Department from 1st June, 1960.

Rajasthan—According to the plan programme, one Public Health Laboratory was established during the year 1960-61. To afford more facilities of medical personnel in the State, the Government had started third Medical College at Udaipur. The Government has enforced the Prevention of Food Adulteration Act, Vaccination Act and Epidemic Diseases Act. The Acts under consideration of the State Government were (i) Model Public Health Act and (ii) Sanitation Act, etc.

In S.M.S. Medical College, Jaipur, the Section of Allergy and Chest in the Department of Medicine was further developed. New Sections of Neurology and Haematology were also started during the year 1960. Steps were also taken to start a Section in Cardiology. Besides, the Neuro-Surgery and Thoracic Surgery were also developed in the said institution. A third Medical College was started to meet out the increasing demand of medical personnel in the State. This Medical College is named Ravindra Nath Tagor Medical College and is situated at Udaipur. During the year under report T.B. Hospital, Bari, Udaipur district was up-graded to T.B. Sanatorium on provincial basis.

Uttar Pradesh—The State Government drafted Uttar Pradesh Prevention of Food Adulteration Rules under Section 24 of the Prevention of Food Adulteration Act, 1954 which is at its final stage of publication in the Government Gazette. Besides, the routine analysis of food samples under the Prevention of Food Adulteration Act, 1954, a wide variety of food samples were analysed for research and investigational purposes in connection with the formulation of standards such as saffron, honey, asfoetida (Hing), Cardmum, Curry powder, black pepper etc.

West Bengal—Important achievements during the year under report were that a 320 bedded Ward for the treatment of general patients was opened at the Infectious Diseases Hospital, Beliaghata. The construction of a 360 bedded Ward in the compound of the Nilratan Sircar Hospital and the 500 bedded Hospital at Kalyani was started during the year under review. The construction work of the 100 bedded Hospital at Uttarpara was nearing completion and the construction work of the 1,000 bedded T.B. Hospital at Dhubulia, Nadia district was almost complete, where 500 beds were opened.

The State Government sanctioned the establishment of the following :—

- (a) Institute of Ophthalmology at the Medical College and Hospital, Calcutta ;
- (b) Institute of Mental Diseases with 100 beds after additions and alteration of Gobra Hospital, Calcutta, at a cost of Rs. 11,38,100 ;
- (c) Vaccine Institute at Kalyani at a cost of Rs. 20,01,000 for the production of vaccine lymph ;
- (d) Department of Preventive and Social Medicine in 3 Government Medical Colleges in Calcutta ;
- (e) Cardio Vascular Unit and the Experimental Medical Science at the Seth Sukhlall Karnani Memorial Hospital, Calcutta ;
- (f) Post-Graduate Medical Education—Introduction of D.P.M. and D.M.R.E. courses ; and
- (g) 482 Health Centres with 4,086 beds in the rural areas.

A Rural Training Centre at Burdwan for extending Orientation training facilities for medical and para-medical staff and Sanitary Inspectorship Course was established.

As a prelude to the adoption of National Small-pox Eradication Programme on a country-wide basis, a Small-pox Pilot Project for vaccination of the entire population of the Birbhum district was started in October, 1960. During the year under report more than 5 million people were immunised against Cholera and more than 11 million against small-pox.

In connection with the administration of the Prevention of Food Adulteration Act, 1954 ; 9,322 samples of food stuff were collected of which 8,678 were analysed and 2,565 found adulterated; prosecutions were launched against 2,922 (including previous year's pending cases) of which 1,835 cases ended with conviction. A maximum fine upto Rs. 2,000 and maximum imprisonment upto 2 years were inflicted on the offenders.

Andaman & Nicobar Islands—Due to rigid enforcement of Port Health Rules and taking all other public health measures for prevention of these diseases, these Islands were free from the quarantinable diseases viz., cholera, small-pox and plague.

The Anti-Malaria-cum-Filaria Unit under the National Control Programme is continuing to function in the Nicobar Group of Islands under the charge of Filaria Officer, Car Nicobar. One Anti-Malaria Section has been continuing to function in the Andamans under the Public Health Officer, Port Blair. Regular spraying operations were continued. The National Malaria Eradication Programme was started during the year 1960. The BCG Campaign has been launched here in March, 1959. During the year 9,907 cases were tuberculin tested. 5,290 of them found negative and were vaccinated with the BCG Vaccine.

Treatment for all kinds of diseases was available in the hospital and most of the patients admitted in the hospitals were discharged as cured. Those who required specialised treatment for which facilities do not exist e.g., radium treatment for cancer, were advised

further treatment on the mainland at Government expenses. The confirmed cases of mental patients were sent to Mental Asylum on the mainland for treatment.

Himachal Pradesh—The number of Primary Health Centres were opened through which all possible medical and maternal aid was rendered to the public in the respective areas. No Health Advisory Committee functioned in this Pradesh.

Laccadive Islands—There is no Directorate for Health Services in this Union Territory. The Medical and Public Health staff were functioning directly under the Administrator. One of the important events in the field of Medical Administration during the year was the opening of a 20 bedded hospital at Minicoy, the first of its kind in this Union Territory. A Leprosy Colony was also started in Kadamath Island in 1960. The Public Health Organisation was strengthened and three new Health Inspectors were appointed bringing the total to nine, one each for every major Island. 2,200 doses of small-pox vaccine was sent to the Islands during the year 1960-61.

Manipur—The Maternity Child Welfare and Primary Health Centres functioned satisfactorily. The existing Drugs and P.F.A. Acts were under active consideration for improvement.

WATER SUPPLY & SANITATION

Public Health Engineering :

During the year under review the Central Public Health Engineering Organisation comprising of 9 Public Health Engineers and Sanitary Chemist continued to assist the Ministry of Health in administering the National Water Supply and Sanitation Programme giving technical scrutiny and advice on all urban and rural water supply and sanitation schemes received for inclusion under the programme, inspecting the reviewing works in progress, arranging training programmes for in-service personnel, organising conference of State Public Health Engineers and procuring equipments from abroad.

The following will indicate the progress under the programme :

I. Centrally sponsored schemes :

National Water Supply & Sanitation Programme (Urban and Corporations) :—

- (a) 355 Water Supply Schemes and 76 Sewerage Schemes have so far been approved under the National Water Supply and Sanitation Programme (Urban). These schemes were estimated to cost Rs. 71.12 crores.
- (b) A list showing the Water Supply and Sewerage Schemes approved during the year is given at Table No. 16.
- (c) A sum of Rs. 4019.544 lakhs was sanctioned as loans from the inception of the programme up to March, 1960.
- (d) An amount of Rs. 1008.435 lakhs was to be disbursed as loan during the financial year 1960-61.

Corporation Schemes :

- (e) 9 Water Supply and 6 Sewerage Schemes of Municipal Corporations estimated to cost Rs. 8.84 crores have been approved so far under the programme.

(f) The following Water Supply and Sewerage Schemes of Municipal Corporations were also approved during the year under review :—

States	Name of Schemes	Estimated Cost (Rs. in lakhs)
1. Andhra Pradesh	Secunderabad W.S. Improvements	28.59
2. Gujarat	Ahmedabad Drainage	110.00
3. Madras	Saidapet Drainage	31.92
4. Mysore	Bangalore Drainage (22 estimates)	2.33
TOTAL		172.84

II. Centrally aided schemes :

National Water Supply and Sanitation Programme (Rural) :

(a) 349 Water Supply and Sanitation Schemes estimated to cost Rs. 1905.31 lakhs are under execution in different States in the country. From the inception of this programme upto the end of March, 1960, a sum of Rs. 979.0435 lakhs was paid by the Government of India as outright grant-in-aid to the different States for execution of their rural water supply and sanitation schemes approved under this programme. A further sum of Rs. 146.50 lakhs was also provided during the year under report.

(b) 64 Water Supply and Sanitation Schemes estimated to cost Rs. 75.45 lakhs were approved during the year 1960. A list showing the schemes approved is furnished at Table 17.

III. Training in Public Health Engineering :

The training programme for Public Health Engineers and Engineering Subordinates sanctioned by the Ministry of Health was in progress at the Engineering Colleges at Guindy, Roorkee and at the All India Institute of Hygiene and Public Health, Calcutta. The progress made during the year under review is given below :

Courses	No. trained	Name of the Institutions where courses were conducted
(a) Engineers in the P.G. Course (10 months).	30	(i) All India Institute of Hygiene and Public Health, Calcutta. (ii) Engineering College, Guindy
(b) Engineers in short term Course (3 months).	17	(i) Engineering College, Guindy (ii) Engineering College, Roorkee.
(c) Engineering Subordinates in short term courses (3 months).	51	(i) Engineering College, Guindy. (ii) Engineering College, Roorkee. (iii) All India Institute of Hygiene and Public Health, Calcutta.

Stipends at the rate of Rs. 150 per month to Engineers, and Rs. 100 per month to Engineering Subordinates were sanctioned to the candidates by the Government of India, Ministry of Health during the period of training. In addition to the stipends, tuition and examination fees etc., cost of educational tours, were also borne by the Central Government on behalf of the trainees.

Materials and equipments for an approximate amount of \$13,605.88 were received under O.A. 25 from the T.C.M. of the Government of United States. A further sum of \$15,000 was provided under Supplementary VI to O.A. 25 for procurement of laboratory equipment and books and publications.

An important activity of the organisation during the year was the convening of the Fourth Conference of Public Health Engineers at New Delhi, between 14th and 17th November, 1960. The Conference discussed major problems and policies relating to the implementation of the National Water Supply and Sanitation Programme and reviewed the progress of work done under the Second Five Year Plan period. The Conference suggested an effective programme for the Third Five Year Plan with special reference to financing, organisation, procurement of materials, phasing of works, construction, maintenance, training of engineers, research in public health engineering and allied problems.

Special attention was given during the year to the collection of preliminary data and preparation of draft for a standard Manual and Code of Practice in Public Health Engineering.

The publication of a quarterly Public Health Engineering Bulletin was started during the year and two issues were brought out. The bulletin aims to convey details and scope of the National Water Supply and sanitation facilities in States, the organisational set-up, progress of research work in the country and information regarding technical matters of topical interest. The Bulletin is mailed free to all the State Public Health Engineering personnel, training institutions and other public health engineers in India and abroad.

During this year, the Ministry of Health constituted a committee under the Chairmanship of Smt. Lourdhammal Simon, Minister for Local Administration (Madras) to make a comprehensive assessment of Water Supply and Sanitation Schemes, both urban and rural in all the States, and to suggest ways and means of financing and expediting these programmes effectively.

FIELD PRACTICE AREAS

In the country there have been a number of Health Units functioning in the rural areas during the year under report. Broadly the objections of these units are to disseminate information on public health matters to the population at large and to act as Demonstration Centres. They also provide the necessary medical facilities in the areas under their jurisdiction and tone up the health conditions in the areas concerned.

The activities of these Units, along with the details of health personnel and relevant vital statistics, are briefly summarised below :—

1. Poonamallee Health Unit :

The Health Unit, Poonamallee was first started in 1935. But the activities were curtailed during the year 1940 as Rockefeller Foundation withdrew help in the same year. Again, in the year 1945 it was reorganised and thereafter it is extending year by year. The area covered by this Unit is 36 sq. miles covering 39 revenue villages. According to 1951 census, the population of this Unit was 62,833. The total number of medical and public health personnel employed was 154. The death rate, infant mortality rate and maternal mortality rate were respectively of the order of 17.8, 113 and 0.3. It is to be noted that the maternal mortality rate was only 0.3, which is indeed too low in comparison with the rural area of the State as a whole (3.20). The following table gives the vital statistics for the last six years :

Years	Birth Rates	Death Rates	Infant Mortality Rates	Maternal Mortality Rates	Per- centage of still births among total births
1954	38.9	17.9	127	1.6	2.4
1955	46.4	20.1	142	0.7	3.0
1956	44.8	18.1	120	1.7	2.7
1957	46.9	22.5	147	0.9	3.6
1958	44.2	20.6	135	0.6	3.8
1959	43.6	19.1	138	0.6	3.1
1960	41.6	17.8	113	0.3	3.2

During 1960, no death from infectious diseases like cholera, small-pox, plague, etc. was reported. Only one death from measles occurred during the year under report. 2 cases of smallpox of which one was imported and the other not traceable were reported.

A total of 1,199 deaths due to all causes were reported in 1960 as against 1,282 deaths during the preceding year. 3,678 primary and 45,876 revaccinations were performed and 421 anti-cholera inoculations were performed.

Food adulteration Act was in force in Poonamallee and Kunra-thur Panchayats. A total number of 96 samples sent to the King Institute for analysis of which 18 were found to be adulterated. 15 prosecutions were launched and 12 of them were punished during 1960. For the improvement of the general environmental sanitation in the unit area 258 bore hole latrines were repaired and 276 latrines were fitted with water-seal squatting slabs. There were already 8 tube wells, 1 tank, 49 bore well pumps and 7 draw-well pumps in operation for protected water supply in the area during 1960.

4 batches of Sanitary Inspectors students from Madras Medical College and Stanley Medical College, Madras were deputed to this Unit. The Public Health Visitors, Public Maternity Assistants, Public Health Nurses, Auxiliary Nurse Midwives were undergoing training on field work in this Unit.

The Maternity and Child Welfare Scheme of the Health Unit had six maternity homes and a maternity sub-centre. There were 32 beds provided in all the maternity homes of this Unit area. Different labour cases were removed to the Madras-lying-in hospital in the ambulance van.

Minor ailments were attended to at the Maternity and Child Welfare Centres in Poonamallee Health Unit. A total of 58,331 cases were attended during the year under review.

2. Health Training Centre, Ramnagaram, Mysore State :

The Health Training Centre, Ramanagram has been functioning since 1936. The area covered by this Centre is 113 square miles covering 134 villages. The mid-year population for 1960 was 89,278.

During the year under review the staff consisted of one Health Officer, one Lady Assistant Surgeon, four Assistant Medical Officers of Health. 6 Senior Health Inspectors, 3 Junior Health Inspectors, five Public Health Nurses, 6 Auxiliary Nurse Midwives, 16 Midwives and 4 Compounders.

The vital statistical rates for this Unit area during the year 1960 are given in the following table :

Year	Birth Rates	Death Rates	Infant Mortality Rates	Maternal Mortality Rates	Percentage of still births among total births
1954	41.9	14.3	115.4	4.4	3.0
1955	43.3	14.1	123.3	3.7	3.0
1956	41.1	14.6	119.7	5.1	3.0
1957	38.5	13.3	114.1	6.0	3.2
1958	37.5	12.9	120.9	5.4	3.4
1959	36.1	10.9	114.3	2.4	5.1
1960	38.4	11.5	112.3	4.7	3.2

The birth rates, death rates and maternal mortality rates had shown slight increases during the year 1960 while the infant mortality rate was slightly decreased in comparison with the previous year's data.

There were 3 cases of smallpox and no death during the year 1960 as against 5 cases during 1959. No incidence of cholera and plague were reported.

As regards to health education 20,553 group talks, 13 cinema shows and 800 leaflets were distributed. Four health exhibitions and 3 children's week were also held in this Unit area during 1960. Regarding curative activities, there were 2 Maternity and Child Welfare Centres functioning and the number of attendance at the clinics was 6,145 as compared with 5,094 cases during the previous year. 36,086 home visits were paid by the maternity staff of the unit for 21,473 pre-natal cases, 7,019 for ante-natal cases and 7,594 for other home visits. The number of deliveries conducted by the unit staff was 1,798.

Water supply was mainly from 606 draw wells and 27 tanks which were periodically chlorinated.

Training :

Two Sanitary Inspectors and 16 Health Visitors were trained during the year 1960. The joint nursing project sponsored by the W.H.O. and UNICEF for training of Auxiliary Nurse Midwives at Training Health Centre, Ramanagaram continued during the year under report. 16 doctors completed their training in Orientation Training Course to the Medical Personnel of Community Development and National Extension Service Block Health Units during the year 1960.

3. Health Unit, Palghar, Thana district, Maharashtra :

This Unit was started in 1956 with 26 villages covering an area of 86 sq. miles and having a population of 44,770 as per 1951 Census. The staff of the Unit consisted of Medical Officers, one Health Educator, 3 Sanitary Inspectors one Health visitor, 3 Midwives and 5 Nurse Midwives.

The birth and death rates of the rural population was reported to be 42 and 12 respectively. The Infant mortality and the maternal mortality rates were 88.1 and 1.5 respectively.

As regards health education, this Unit arranged 5 exhibitions and 3 children's week during 1960. 657 group talks and 500 leaflets on family planning and leprosy were distributed. Over and above 28 magic lantern shows on prevention of smallpox, cholera, typhoid and malaria were also exhibited by this Unit during the year under review.

There were 8 cases of smallpox of which 3 were fatal. No case of either of the diseases of cholera, plague, malaria, tuberculosis was reported. Regarding prophylactic against smallpox 2,255 primary vaccinations and 10,365 re-vaccinations and 7,299 anti-cholera inoculations were performed by this Unit during the year 1960.

9 Maternity and Child Welfare Centres were functioning but one centre was closed down from September, 1960. The number of beds available was 23. The maternity staff of this Unit paid 5,111 first visits and 35,575 re-visits for ante-natal, post-natal, pre-school etc., and they conducted 119 deliveries during the year 1960.

As regards protected water supply, the Unit constructed 3 tube wells, 2 draw wells and repaired 14 draw wells during the year making a total of 123 tube wells and 684 draw wells.

A total number of latrines either constructed or repaired was 64 during the period under review. Training programme at the Unit consisted of 25 Sanitary Inspectors and 48 Midwives. 259 post-graduate students also had field training. For training in leprosy, 44 Gram Sevaks were trained during the year covered by this report.

4. Saoner Health Unit, Nagpur :

This Rural Health Unit was started by the Government of Madhya Pradesh in 1954. Since 1958 the unit is under the administrative control of the Director of Public Health, Poona. It covers 80 square miles with 44 villages and one town having 40,075 as the mid-year population for the year under report.

The Medical Officers of Health, one male and one female Assistant Surgeons, one Assistant Public Health Engineer, 2 Sanitary Inspectors, 2 Public Health Nurses, 5 Midwives and 2 Nurse-cum-Midwives and others were in the executive staff of the Unit.

There were no cases of cholera, smallpox or plague reported. The birth rate was 45.6 and the death rate was 19.1. Infant mortality rate and maternal mortality rate were 167.3 and 3.22 respectively. The percentage of still births among the total births was 1.64.

For control of communicable diseases 1,373 Primary and 1,902 revaccinations against smallpox and 110,003 anti-cholera inoculations were performed.

775 draw wells were already existing and 2 more were newly constructed and 5 wells were repaired during 1960. The Sanitary Inspectors disinfected the draw wells for drinking water.

Three maternity health centres were functioning under this Unit. 961 deliveries were conducted and a total of 5,378 home visits were paid by the Maternity and Child Health staff. The number of new and old patients treated at the sub-centres for minor ailments were 1,389 and 2,781 respectively.

As regards health education, 29 Lectures, 4 magic lantern shows, 25 cinema shows and 90 group talks were given on Family Planning, Nutrition, Malaria Control, T.B. Control and such others subjects.

Training programme consisted of 75 pre-registration graduates for 3 months rural public health training and reorientation training of 48 midwives. Training of 127 Sanitary Inspectors and 92 Health Educators, 14 Health Visitors and others was continued.

5. Rural Health Unit and Training Centre, Singur :

This Unit is in existence from 1939. The area, population and the number of villages covered by the Unit were 146 sq. kilometers, 100,000 (approximately) and 105 respectively. This Unit is directly responsible for execution of services in Nasibpur Union, Anandanagar Union and Paltagarh area of this Unit.

The birth rate per mille of population for the unit area was 31.31 and the death rate was 6.61. The infant mortality rate per 1,000 of live births and maternal mortality rate per 1,000 of live and still births were 47.59 and 2.39 respectively. The infant mortality rate and maternal mortality rates for rural population of the State as a whole were 75.6 and 4.2 respectively.

Activities regarding health education consisted of 7 health exhibitions, 2 children's week and 6 health dramas held by the unit. 32 lectures, 85 cinema shows were arranged and 541 group talks and 5,200 leaflets were distributed during 1960.

As preventive measure against spread of diseases the Unit performed 5,323 primary vaccinations and 40,816 re-vaccinations against smallpox, 13,560 anti-cholera 1,638 anti-typhoid inoculations were performed.

4 Maternity and Child Welfare Centres were functioning in the Unit area conducted 417 safe deliveries during 1960. The maternity staff of the unit paid 14,514 home visits for pre-natal, ante-natal, nursing mothers and other purposes. Distribution of milk powder, vitamin tablets to the children and nursing mothers was also taken up during the year under report.

788 protected tube wells were the source of supply of water. 66 tube wells were newly constructed and 1,386 wells were repaired by the Unit during the year under report.

In the school health programme of the unit 1,687 students were examined by the staff of the unit of which 1,027 students were found to be defective due to malnutrition, bad-teeth, ear, nose, throat troubles, eye diseases and others. Training of 28 Sanitary Inspectors, 3 Health Visitors were conducted for general and orientation purposes.

Field Training was arranged by the Unit for 82 D.P.H., L.P.H., and D.M.C.W. students 32 for M.E. (PH), 12 for D.N., Diph. diet and Certificate in Nutrition, 24 for C.P.H.N. and 24 for C.P.H.E. students. 20 Cuttack Medical College students and 55 Health Inspectors of Orissa State were also trained during 1960.

Survey on investigations on public health subjects of Dearah Village was conducted as an exercise for D.P.H. students and investigations on rural sanitation and family planning was being carried out by R.C.A. Project and Rural Population Control study respectively.

6. Rural Health Centre, Jagatsingpur, Cuttack :

The Centre was established in 1956 covering an area of 7.5 square kilometer consisting of 80 villages and covering a population of 40,607. One Medical Officer of Health, one male and one female Assistant Surgeons, two Lady Health Visitors and others were senior personnel of the unit.

For the unit area the birth and death rates were 18.6 and 8.5 respectively. Infant mortality rate per 1,000 live births and maternal mortality rate per 1,000 live or still births were 178.6 and 13.0 respectively during 1960.

42 smallpox cases with no deaths were reported in the unit area and no cholera, plague cases were reported during the year under report. 1,183 primary and 1,816 re-vaccinations were performed against smallpox. 3,000 inoculations were performed. 500 persons were tested and 225 were BCG vaccinated during the year covered by this report.

One main Maternity and Child Health Centre, two Sub-centres and one intensive Domiciliary Delivery Centre were functioning. 210 deliveries were conducted by the unit staff and they paid 5,578 home visits.

Tube-wells were the main source of protected water supply. 46 latrines were filled with water slab and squatting slab during 1960.

As regards training programme, the unit trained 74 Sanitary Inspectors, 73 subsidised Medical Practitioners, 14 Health Visitors. General nursing training to 18 candidates and Midwifery training to 26 candidates were imparted by the unit during the year under review.

7. Health Unit, Bavla, Maharashtra State :

This Unit has been functioning since 1956 covering 123.8 sq. miles and 32 villages with a population of 45,232.

There were one Medical Officer of Health, one Health Educator, 3 Sanitary Inspectors, one Public Health Nurse, 2 Health Visitors, 3 Midwives and 1 Nurse-cum-Midwives. The birth rate of the unit area was reported to be 42 while the death rate was only 18. The infant mortality rate was 125.5.

20 cases and 2 deaths due to cholera, 81 attacks and 20 deaths due to smallpox were reported. 2,291 primary vaccinations and 14,020 re-vaccinations against smallpox and 14,539 anti-cholera inoculations were performed during the year under report.

Regarding health education, 4 exhibitions were held and one children's week was also arranged. 2 health dramas were played by Health Unit to educate the public. Substantial number of leaflets were distributed and group talks and cinema shows were also held.

There were 7 Maternity and Child Welfare Centres. The Unit had to its credit one Lady Medical Officer, 3 Health Visitors and others. 14,753 home visits were paid by the staff for pre-natal and other purposes. The number of deliveries conducted by the Unit staff was 118. Emphasis was laid on the programme of distribution of 2,105 lbs. of powder milk to the children and expectant mothers.

2 Tube-wells were constructed to add to 6 already existing. There were 103 draw wells of which 5 were repaired.

In the school health programme of the Unit 408 students were examined of which 202 cases were referred to the hospital for treatment.

The training programme of the Unit served to 109 Medical Internees trained in rural health and social medicine. 41 Sanitary Inspectors and 2 Medical Officers of Primary Health Centres were trained during the year under review.

8. Health Unit, Sirur, Poona :

The Sirur Health Unit was established in 1939 with an area of 492 sq. miles consisting of 64 villages. The mid-year population of 1960 was not available but for 1957 it was 95,408. The birth rate was 51.2 while the death rate was 16 per mille of population. The infant mortality and the maternal mortality rates of the Unit area were respectively 111.5 and 0.78.

The following table gives the vital statistical rates for the Unit since 1957 :—

Years	Birth Rates	Death Rates	Infant Mortality Rates	Maternat Mortality Rates
1957	42.5	14.8	98.0	2.2
1958	43.1	18.3	114.2	3.8
1959	+	+	+	+
1960	51.2	16.0	111.5	0.78

+Information not available.

The medical and public health personnel employed in the Unit were as follows :—

1. Medical Officer of Health	1
2. Assistant Medical Officer of Health	1
3. Health Educator	1
4. Dental Surgeon	1
5. Public Health Nurse	3
6. Sanitary Inspector	3
7. Sanitary Sub-Inspector	2
8. Nurse-cum-Midwives	12
9. Health Visitors	1
10. Midwives	2
11. Medical Officer-in-Charge, Public Health Units	2
12. Medical Officer-in-Charge of Dispensary	1

There were two dispensaries in the two Primary Health Units viz., Talegaon Dhamdhere and Nhavra and 1 Municipal Dispensary at Headquarters from where medical relief was given. In addition to minor ailments treatment was carried out at all the 8 health Sub-Centres. The notable features for the year 1960 can be ascribed as starting of Laboratory, Dental Clinic and establishment of Primary Health Centre at Sirur.

The usual preventive measures were undertaken. The number of primary vaccinations performed against smallpox were of the order 4,149 and re-vaccinations performed were 19,810. 10,774 anti-cholera and 1,019 anti-typhoid inoculations were performed. DDT spraying and other malaria control measures were also carried out by the Malaria Medical Officer, National Malaria Eradication Programme Unit, Poona.

During the year under report, health education and propaganda was vigorously taken in hand. 233 lectures, 13 magic lantern and 13 cinema shows and 488 group talks were arranged on subjects like epidemic diseases, domestic hygiene, nutrition, T.B. control, family planning and other such subjects. Besides one health exhibition was held and a health drama was enacted during 1960.

There were in all 8 maternity and child welfare centres functioning during the year under report. 3 maternity homes with 14 beds were catering to the needs of the people. 822 deliveries were conducted by the maternity staff of the Unit. They also paid a good number of home visits. One Lady Medical Officer, one Health Visitor, 14 Nurse-cum-Midwives and 3 Public Health Nurses and 1 field worker were employed for maternity and child welfare work. Besides, dry skimmed milk powder, vitamin tablets, etc., were distributed to the children and nursing mothers.

The unit conducted medical inspection of the school children. During the year under review, 1,330 students were examined by the staff of the Unit of which two cases were referred to the hospital for treatment.

The sources of water supply were tanks, draw-wells and hand pumps. Water for drinking purposes was protected. 7 new draw wells were constructed during the year under report. For the improvement of sanitation 19 manure pits were dug and 151 soak pits were constructed. In the training programme of the Unit, 11 Health Visitors, 15 Public Health Nurses, 53 Nurse-Midwives and 318 Sanitary Inspectors were trained during 1960.

The total estimated annual expenditure during the year 1960 was Rs. 1,70,776.80 NP.

9. Rural Health Training Centre, Verka :

The Centre has been functioning since 1958 covering 20 villages having a population of 41,000 approximately. The birth rate of the unit area was 35.0 while the death rate was 9.0 per mille of population. The infant mortality rate was 101 but there was no maternal death recorded during the year under report.

The medical and public health personnel employed in the Centre were, 1 Medical Officer of Health, 3 Medical Officers, 4 Auxiliary Nurse-Midwives, 1 Health Educator, 2 Sanitary Inspectors, 3 Lady Health Visitors including one for family planning and 2 dais.

There was no incidence of cholera, smallpox, plague or malaria although there were 172 cases recorded for other causes of sickness. Preventive measures were undertaken during the year under review. The Maternity and Child Welfare Centre conducted 550 deliveries and paid 11,210 home visits for pre-natal, post-natal and other visits. The staff pattern of the Maternity and Child Welfare Centre consisted of 2 Lady Medical Officers, including one for family planning, 3 Health Visitors, 4 Nurse-Midwives and 2 dais. The Maternity and Child Welfare Centre, in addition to above activities, distributed milk, vitamin tablets to the children and expectant mothers.

Regarding health education 2 exhibitions were held and 1 children's week was also arranged. 900 leaflets on various health topics were distributed and posters on communicable diseases and family planning were demonstrated. 101 group talks were held and 13 cinema shows were arranged by the Unit for the dissemination of information on public health matters to the population of the entire area.

PRIMARY HEALTH CENTRES

The Primary Health Centres, each serving a population of 65 to 75 thousand of population with only one Doctor, 1 Sanitary Inspector, 1 Health Visitor, 1 Pharmacist and 4 Midwives, provide only 6 beds each. As they are constituted and staffed, the Primary Health Centres are not yet equipped to give the integrated health services expected of them.

The target fixed by the "Health Survey and Planning Committee" set up by the Government of India in the Ministry of Health during August, 1959—October, 1961 suggested in its report that there should be 2,800 Primary Health Centres by the end of 1960 achieving thereby 1 Primary Health Centre for 70,000 of population. But so far 2,282 Primary Health Centres have been established from the beginning of the First Five Year Plan period to the end of the first four years of the Second Five Year Plan period. The number of Primary Health Centres opened (including those opened during the First Five Year Plan period) upto the 31st March, 1960 and the number opened upto the end of 1960 are shown in Table 18.

MEDICAL INSPECTION OF SCHOOL CHILDREN

The system of medical inspection of school children is one of the important functions of the health authorities in the country. It is not only beneficial for the students community but also it would go a long way to tune up the general health of the population at large. The system of medical inspection of schools varies from one State to another. The activities regarding the medical inspection of the students in schools carried out in different States during the year under review are detailed below :—

Andhra Pradesh—The School Medical Inspection Scheme was inaugurated in June, 1934 in the old Hyderabad State and the work continued in the city as well as in the districts. The Scheme covered originally Government Institutions, but subsequently all Government aided schools in Hyderabad and Secunderabad cities and suburbs of both the cities are included. Later on it was proposed to establish one School Health Clinic for each district in the State. So far 13 School Health Clinics have been established in the districts of (1) Hyderabad, (2) Medak, (3) Mahboobnagar, (4) Adilabad, (5) Karimnagar, (6) Nalgonda, (7) Nizamabad, (8) Khammam, (9) Warrangal, (10) Kurnool, (11) Ananthapur, (12) Guntur and (13) Visakhapatnam. The entire Telengana area of the State is covered by School Health Services.

1,154 schools were visited and the total number of 1,28,179 school children were examined during 1960. The following number of students were found to be defective due to the various diseases :

[illegible]

The School children found defective were advised to approach the nearest hospital or dispensary for treatment. The School Health Staff follow the cases of defective students.

During the year 1960-61 the UNICEF had released 278,233 lbs. of skim milk powder for feeding 18,000 children daily at 198 schools through the School Health Services.

Assam—The School Health Services Scheme was introduced in the year 1957 in Gauhati and later the Unit was shifted to Jorhat on 1st October, 1958. The Government had appointed one Medical Officer-Incharge of School Health Services with his Office at Jorhat under the Deputy Director of Health Services (Regional), Jorhat for the purpose of medical inspection of school children in the State.

The number of institutions in which medical examination of pupils was conducted during the year under report was 25. The total number of students examined was 3,781 out of which the number found defective were 1,100 due to the various diseases as detailed below :

Description	Rural	Urban	Total
1. Malnutrition	841	38	879
2. Bad teeth and gums	793	45	838
3. Tonsils	656	133	789
4. Eye defects	40	2	42
5. Skin diseases	48	3	51
6. Enlarged spleen	9	..	9
7. Respiratory Diseases	38	4	42
8. Other defects	1,356	32	1,388
TOTAL	3,781	257	4,038

As far as possible defective students were followed up in the School Health Clinics and in family visits. Students, requiring special medical attention, were checked periodically by the Primary Health Unit personnel during medical inspections. Sanitary Inspector visited once a month each school and collected information from the students and the teachers and reports them to the nearest Medical Officer for necessary action. Guardian were also instructed to report to the Medical Officer and to take regular treatment from him. The results of followed up cases are evaluated time to time.

Minor ailments are treated during medical inspection; height and weight are regularly checked up every quarterly and half-yearly. Major defects are primarily treated in nearest Health Centre or in the Dispensary and the defects, which are not locally treatable, are referred to Sadar or Sub-divisional Hospitals.

Necessary arrangements for supplementary feeding for school children were made in the State in two areas viz., Moitazar in the Goalpara district and Majuli in the Sibsagar district by the Education Department of the State through UNICEF.

Gujarat—The Deputy Directors of Public Health Services, the District Health Officers, Civil Surgeons, Epidemic Medical Officers, Subsidised Medical Practitioners, Sanitary Inspectors, Vaccinators etc., during the course of their tours paid visits to schools and brought to the notice of the authorities the defects in sanitary conditions. The Sanitary Inspectors also gave instructions to school children on health habits, personal cleanliness and prevention of epidemic diseases like cholera, smallpox, etc.

Instructions on health and hygiene are imparted as a part of the curriculum in primary schools. In Primary Training Institutions subjects of hygiene and physiology were prescribed in the studies for second year classes. Propaganda on school hygiene is carried out by imparting lectures, demonstrations, magic lanterns, slides and film shows etc. The visual instructions branches of the Education Department also demonstrated in rural areas by way of illustrations, lectures on the principles of sanitation and cleanliness. The staff of the Public Health Department arranged magic lantern lectures and health talks in schools which were found to be very useful in educating school children on health matters. The Operator-in-Charge, Public Health Department gave film shows on health subjects in different schools. The S.M.Ps.-in-Charge of Primary Health Units paid visits to schools in village under their centres and examined children.

Kerala—The Government had implemented a scheme for the medical inspection and follow up medical care of Lower Primary School Children. 196 Medical Inspection Units were functioning in the State. Each Unit covered the Lower Primary Schools within a radius of five miles and was manned by a Medical Inspector on part-time basis.

Maharashtra—For School Medical Services in the State 5 clinics functioned. Each clinic had a Medical Officer, Public Health Nurse and a Compounder. Medical examination of pupils was conducted in 40 institutions. The total number of students examined were 6,545 of which 428 were found defective due to the diseases mentioned below :

1. Malnutrition	.	.	.	.	.	.	.	.	.	.	11
2. Bad teeth and gums	.	.	.	.	.	.	.	.	.	.	166
3. Tonsils	.	.	.	.	.	.	.	.	.	.	59
4. Eye defects	.	.	.	.	.	.	.	.	.	.	73
5. Skin Diseases	.	.	.	.	.	.	.	.	.	.	85
6. Enlarged spleen	.	.	.	.	.	.	.	.	.	.	1
7. Other defects	.	.	.	.	.	.	.	.	.	.	31
TOTAL											428

The defective students were referred to Civil Hospitals in urban areas and to Primary Health Centres in rural areas.

UNICEF feeding programme was conducted and 2,384 Scholars were benefitted by this scheme. Skim milk was supplied to 245 students during the year under review. 200 free spectacles were given to deserving students.

Madhya Pradesh—There was no regular service for medical inspection of school going children in the entire State. The Assistant Medical Officers visited all Government Secondary Schools for boys every month for examining the students and advised them to take medical treatment, if found necessary. The Government touring doctors visited schools in rural areas periodically.

During 1960, the medical examination of children was conducted in 497 schools and 70,220 students were examined out of which 21,581 students were found defective due to the various diseases as detailed below :

1. Malnutrition	3,224
2. Bad teeth and gums	3,577
3. Tonsils	3,339
4. Eye defects	3,348
5. Skin diseases	1,115
6. Enlarge spleen	402
7. Not protected against smallpox	1,057
8. Respiratory diseases	222
9. Other defects	5,297
	<hr/>
TOTAL	21,581
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After complete medical examination of every student details of the examination are filled in the form duly approved by the Inspector General of Hospitals and a request is sent to the guardian by the Medical Inspector. The guardians are requested to consult any private or family doctor for further necessary treatment.

Some schools such as Balvidhya Mandir and schools having boarding houses have got arrangement for providing mid-day meals and other refreshment during recess period and the food articles viz., chapaties, biscuits, milk, fruits of the season, butter etc. were supplied. The number of students benefitted was 2,307.

Punjab—The Schools in urban areas continued to make their own arrangements for medical inspection of school children by employing part-time School Medical Officers viz., Assistant Surgeons-in-Charge, Local Hospitals and Dispensaries or private medical practitioners. Such schemes are financed by realising a small fee from the students.

Under the School Health Services Scheme of erstwhile Punjab State, Night School Health Clinics at Ludhiana, Rohtak, Hissar, Karnal, Amritsar, Gurgaon, Chandigarh and Dharmasala (Kangra) towns continued functioning. 19,829 students were examined during the year under report.

In the area of erstwhile PEPSU State, the Medical Inspection of School Children Scheme continued to make satisfactory progress during the year under report and 28,287 students were examined.

In rural areas, the Medical Officers-in-Charge of rural dispensaries continued to do the work of medical inspection of school children of Government Primary and Middle Schools free of charge. The Medical Officers, however, received remuneration for this additional work in High Schools from the School Health Fund.

The work done by the Medical Officers-in-Charge of the provincialized rural dispensaries in this behalf is summarised below :

Number of schools visited	415
Number of students examined	45,200

Rajasthan—So far the medical inspection of school children was being carried out regularly in the districts of Jodhpur and Jaipur. The same has been in existence in Jodhpur City even uptill now but at other places it had to be suspended due to administrative reasons. In some of the defective students, their parents were requested for their treatment in the local hospitals and dispensaries.

Uttar Pradesh—There is a central school dispensary in each of the 14 towns and the whole-time School Health Officer is the Medical Officer-in-Charge. The jurisdiction of the whole-time School Health Officer is confined only to the institutions situated within the town. He is expected to examine at least 3,000 boys in detail during a year. The central school dispensary, of which the whole-time School Health Officer is in-charge, is meant only for scholars studying in institutions which are contributing a medical fee of six naya paisa per month a scholar. The dispensary is primarily meant for the treatment of minor ailments and defects detected during the course of their detailed medical examination by the whole-time School Health Officers. With each of the 14 central school dispensaries one Honorary Dentist and one Honorary Ophthalmologist are also attached, who attend the dispensary twice a week and examine the scholars needing treatment for their dental and eye troubles. The girl students are not covered under this scheme.

780 ill-nourished boys were fed on UNICEF milk and whole-milk in schools on the recommendations of the School Health Officer and after due classification by the heads of institutions as indigent. Free supply of 333 spectacles was made to poor boys found with defective visions.

The Government had appointed a re-organization committee to go into the details of the various aspects of school health during the year under report.

Himachal Pradesh—During the Second and the Third Five Year Plans, the provision has been made to appoint doctors under the School Health Scheme but the same has not so far been implemented.

due to non-availabilities of doctors. However, the Medical Officer-in-Charge of Hospitals/Dispensaries pay visits occasionally to the school within the radius of 5 miles from the institutions to examine the school children and give necessary advice. Twenty one institutions, in which medical examination of pupils was conducted, 973 scholars were examined and the numbers found defective due to the various diseases in the Chamba district were as follows :

1. Malnutrition	.	.	.	.	.	.	.	.	.	83
2. Bad teeth and gums	.	.	.	.	.	.	.	.	.	17
3. Tonsils	.	.	.	.	.	.	.	.	.	15
4. Eye defects	.	.	.	.	.	.	.	.	.	92
5. Skin Diseases	.	.	.	.	.	.	.	.	.	123
6. Enlarged spleen	.	.	.	.	.	.	.	.	.	3
7. Respiratory diseases	.	.	.	.	.	.	.	.	.	3
8. Other defects	.	.	.	.	.	.	.	.	.	637
TOTAL										973

Advice slips were issued to the defective students who were supposed to attend the Out-patient Department of the nearest hospital/dispensary and as such the defective children were given treatment regularly.

Manipur—The medical inspection of school children was carried out twice a year by two Medical Officers—one male and one female. The number of institutions, in which medical examination of pupils was conducted, was 48 during the year under review and the total number of scholars examined and the number found defective was 12,102. The defects observed during examination were due to the various diseases as detailed below :

1. Malnutrition	.	.	.	.	.	.	.	.	.	350
2. Bad teeth and gums	.	.	.	.	.	.	.	.	.	245
3. Tonsils	.	.	.	.	.	.	.	.	.	110
4. Eye defects	.	.	.	.	.	.	.	.	.	61
5. Skin diseases	.	.	.	.	.	.	.	.	.	525
6. Enlarged spleen	.	.	.	.	.	.	.	.	.	20
7. Not protected against smallpox	.	.	.	.	.	.	.	.	.	65
8. Respiratory diseases	.	.	.	.	.	.	.	.	.	214
9. Other defects	.	.	.	.	.	.	.	.	.	215
TOTAL										12,102

There were arrangements for supplementary feeding for the school going children with milk powder.

Laccadive Islands—The Medical Officers in this Territory were instructed to conduct routine health-inspection of school children.

INDUSTRIAL HEALTH

With the advent of Independence, certain assurances were given to labour in recognition of its rights which had long been neglected. Fair progress has been made in the implementation of the social security measures provided under the Employees' State Insurance Act, 1948. Care, comfort and security, when given to the industrial workers, lead to increased production and harmony in industrial undertakings. The scheme has proved useful to the workers employed in the various industrial factories and Organisations in the various parts of the country.

The Employees' State Insurance Scheme has so far been accepted by the States of Andhra Pradesh, Assam, Bihar, Kerala, Madhya Pradesh, Mysore, Maharashtra, Madras, Punjab, Rajasthan, Uttar Pradesh, West Bengal, and the Union Territory of Delhi.

Summary of the report from the States on the subject "Industrial Health" is given below. From the reports it may be derived that a good deal has still to be done before the ideal standards could be achieved for the welfare of the factory and mill workers in the various parts of the country.

Andhra Pradesh—During the year 1960, proposals for the declaration of residential and industrial areas were received from 12 local bodies i.e., 9 Panchayats and 2 Municipalities. Out of the above proposals 6 were approved by the Director of Town Planning and Director of Public Health of the State and forwarded to the Executive Authorities concerned for taking necessary action and for notification.

In order to deal with the cases under Dangerous and Offensive Trades, which are numerous in number in the Andhra Pradesh State, proposals were submitted to Government for the sanction of the post of Assistant, Director of Public Health (Industrial Hygiene) and Government orders to this effect are still awaited.

Most of the local bodies had not taken any initiative to submit their proposals in the demarcation and notification of residential and industrial areas in consultation with the Health Officers concerned and after obtaining the approval of the Director of Public Health and the Director of Town Planning, Andhra Pradesh, Hyderabad in spite of the provisions contained under sections 89 and 90 of the Public Health Act. Circulars were issued to all the local authorities to take immediate action in this regard.

There were 536 factories including 169 seasonal and 367 non-seasonal during the year under report. The District Health Officers and Municipal Health Officers, who were the Additional Inspectors of Factories under the Factories Act, 1948, inspected the said number of factories and offered their remarks to the concerned. The District Health Officers, Nellore, Cuddapah, and Chittoor also inspected the mines under their jurisdiction and made recommendations to collectors for improvement on the health and sanitary conditions of the persons working in the mines.

Assam—The Employees State Insurance Scheme having been brought into force in this State of Assam on October, 1958, continued to function satisfactorily during the year under report. There were 5 dispensaries at Gauhati, Dhubri, Makum, Tinsukia and Dibrugarh. There were about 4,585 insured persons in this State entitled to medical care under the scheme. Out-patient treatment was provided for the insured persons in the dispensaries established for the purpose supplemented by home visits by the Insurance Medical Officers wherever condition of the patients demanded.

Specialist services and in-door treatment were given whenever possible. The average daily attendance in each dispensary was 50. Only out-door services were rendered in these dispensaries. Proposal for opening in-door ward had not yet materialised. Preventive measures were extended to insured persons both at home as well as in dispensaries.

Bihar—During the year under report there were 7 permanent dispensaries and one part-time dispensary functioning as in the previous year. Medical and clinical facilities continued to be given to the insured employees and their family members. Vaccination against Smallpox, inoculation against Cholera, Typhoid and injections etc. were also given to the insured employees. Under the scheme, beds for mental diseases, Leprosy and T.B. etc., continued to be reserved for hospitalisation of insured employees in the State Hospitals.

During the year 1960, 753 insured persons were treated or examined by the specialists. They received these facilities in the State Hospitals. Cases of bowel disorder and respiratory diseases had been common. In the absence of corporation's own buildings, the dispensaries were housed in rented buildings.

The Industrial Health Section of the Inspectorate of Factories, Bihar continued to advise the Inspectorate of Factories on medical and health matters during the year 1960. A special programme on the training of at least two factory workers in each shift of work in each section of factory was taken up and made considerable progress. 115 factories were inspected by the Medical Inspector of factories for investigations on occupational health and allied matters.

The Industrial Hygiene Laboratory examined the following samples and specimens during the year under report :

Nature of samples	No. of samples examined
Blood	200
Urine	40
Air	40
Water	100
In-chemical plants	90

Besides, these, the following three special investigations were taken up during the year under review :—

- (i) Poisoning of workers in printing presses doing hand compositor's work ;
- (ii) Effect of excess salt intake by workers in hot environment on blood pressure ;
- (iii) Byssinosis survey in cotton mills.

Delhi—The year 1960-61 was the 9th year since the inception of the Employees' State Insurance Scheme in Delhi area. The number of persons insured under the scheme was about 75,000. The dispensary and domiciliary maternity services were extended to the families of insured persons on 1-7-1959, thus about 3 lakhs persons were covered by the scheme during the year under report.

The total budget allocation of the scheme was 16 lakhs. Hospital facilities were provided at the Irwin Hospital and S.J. T.B. Hospital, Delhi. 50 beds in the Irwin Hospital and 30 beds in the S.J. T.B. Hospital were reserved for the patients of the Employees' State Insurance Scheme. Besides, Surgical, Medical, E.N.T. and Eye specialists, the posts for Radiologist, Bacteriologist, Gynaecologist and Dermatologist were sanctioned during the year under report and all the posts except that of the Dermatologist had been appointed. A Gynaecologic centre started functioning at one of the dispensaries. A Family Planning clinic also started functioning at one of the dispensaries during the year under report.

One new dispensary started functioning at Tilak Nagar and the expansion of the subzimandi dispensary was completed. At Azadpur the whole premises of the Dispensary at Azudhia Mill had been given up and a dispensary started functioning in a rented building in Model Town.

The total number of attendance of the insured persons in the dispensaries was 9,13,649 and that of the families was 8,22,043. The average monthly attendance of the insured persons was 76,137 and that of the families was 68,504. The number of in-door patients treated at the Irwin Hospital was 948 during the year under report. The number of births conducted by the staff of the dispensaries was 1,616 and 3,207 women were registered at the Ante-natal clinic.

Kerala—During the year under review there was rapid progress in the expansion of the Employees' State Insurance scheme to new areas by the opening of new medical institutions. The medical benefit aspect of the scheme was extended to 13,000 industrial workers residing in Quilon, Cochin, Tellicherry and Cannanore districts.

Six full-time dispensaries (including one mobile dispensary) were started functioning during the year under report of these, 2 dispensaries were functioning in Cochin, and 4 in Tellicherry and Cannanore districts. Mobile van rendered medical aid to the insured residing in scattered areas in Tellicherry.

As regards the specialised branches of treatment, T.B. was given importance for constructing separate T.B. Hospitals under the scheme exclusively for the treatment of insured workers. A 24-bedded annexe

in T.B. Hospital, Pulayanarkottah, Trivandrum was under completion during the period under review. In-patient treatment was given to insured workers under the scheme by reserving beds in the respective District Hospitals according to the yard-stick laid down by the corporation. Thus in the year under review, beds were reserved in Government Hospital, Palluruthy, Cochin, Government Hospital, Tellicherry and in District Hospital, Cannanore.

38 part-time specialists were appointed under the scheme in various district hospitals where the scheme was in operation.

Madras—The health of workers during the year under report had been generally good and there was no epidemic anywhere. Special attention was paid by Inspectors of Factories towards protection of the workers against industrial diseases and maintenance of general health. 51 prosecutions were taken up during the year under report for contraventions of the provisions relating to health against offenders who had not complied with the provisions inspite of warnings.

Mysore—The Employees' State Insurance Scheme that was brought into force on 27-7-1958 in the Greater Bangalore, covering 57,750 insured employees, continued to function satisfactorily during the year under report. The number of insured persons entitled to medical benefit under the scheme was of the order of 80,000 as on 31-12-1960.

During the year under report, the Employees' State Insurance scheme was extended to Hubli, implementing the scheme on 27-3-1960, and covering about 1,500 insured persons. Reservation of beds was arranged at the Karnatak Medical College Hospital, Hubli on capitation basis. One whole time dispensary with two doctors started functioning from the date of implementation. The Administrative Medical Officer, Employees' State Insurance scheme made a preliminary survey of Mysore, Belgaum, and Gulberga for the extension of the scheme to these areas. Proposals were also formulated for the extension of the scheme to Mysore. The Central Stores established under the scheme continued to function satisfactorily. A sum of Rs. 13,31,425 was spent upto the end of December, 1960.

Ambulance services continued to render service for the insured persons both for picking up at various dispensaries for hospitalisation and for taking them at their residences after being discharged from the hospital, in special cases. The E.S.I. Hospital continued to function in two units, at two rented buildings, during the year under report.

22 full-time dispensaries, 2 part-time dispensaries and 2 Employer's Dispensaries, as in the previous year, also continued to function in 1960 at various localities of Bangalore. The Employers' Dispensaries at Hindustan Machine Tools and Bharat Electronics were affiliated to the E.S.I. Scheme w.e.f. 20-1-1960. Two Ayurvedic Units were established in the E.S.I. Hospital to cater to the needs of the insured persons and their family members.

Services of 7 part time specialists were continued during the year under report. For T.B. cases, 16 beds were reserved in S.D.S. Sanatorium on capitation basis, non-infectious type of T.B. cases and

cases of surgical Tuberculosis were admitted in the E.S.I. Hospital in a separate unit.

The Government accorded sanction under the E.S.I. Scheme for the construction of a hospital building of 170 beds at Rajajinagar extension at an estimated cost of Rs. 23,28,000 including cost of site during the year under report. The Government had also sanctioned construction of quarters to the Essential staff of the E.S.I. Hospital at an estimated cost of Rs. 11.04 lakhs.

Madhya Pradesh—The employees' State Insurance Scheme, during the year under report in the State of Madhya Pradesh, was extended to 9 Industrial centres viz., Indore including Mhow, Gwalior, Ujjain, Bhopal, Ratlam, Jabalpur, Burhanpur, Nagda and Rajnandgaon covering an insurable population of 93,000. The scope of medical and clinical care was extended to the families of insured persons in all the implemented areas of the State.

The state insurance dispensaries in various centres were located in rented buildings. It was proposed to construct State Insurance buildings and staff quarters in all the implemented areas at the sale cost of the corporation during the year under report. It was also proposed to construct separate hospitals/wards at various centres to provide in-patient treatment to the insured persons. The construction work of one State Insurance dispensary and staff quarters each at Indore and Nagda had already commenced.

Facilities for hospitalisation and specialists services existed at all centres for insured persons only. Hospitalisation facilities were provided by reserving certain number of beds in the Government Hospitals on payment of bed-day charges. Similarly specialists services were provided by appointing specialists in various branches wherever available on payment of honoraria.

Maharashtra—The Employees' State Insurance scheme applied to the industrial workers under the Employees' State Insurance Act, 1948 covered a considerable part of the population of the areas in which it was implemented. The "Social Health Insurance" was introduced for a section of the society covered up under the industries with more than 500 workers in each. The scheme in question was implemented in Greater Bombay (covering municipal limits alone) and 4 talukas of the Thana district since 1954.

The number of insured persons entitled to medical benefit during the year under report was 660,336 and thus there was an increase of 40,941 persons in the year 1960 over the year 1959. The number of insured persons registered with panel doctors was 514,753 in 1960 as against 494,170 in 1959. The number of insurance medical practitioners had increased from 1,092 in 1959 to 1,159 in 1960. In addition to the Allopathic Medical Practitioner, Ayurvedic and Unani Practitioners were also included in the panel of insurance medical practitioners for giving the treatment. Ayurvedic specialists were also appointed.

There were six diagnostic centres with part time Specialists in various branches of medicine. One Fulltime Radiologist was appointed in place of 3 part time Radiologists. The various facilities

like laboratory investigations, X-ray examinations, were available at the above centres. Electrocardiograms were also taken at some of the diagnostic centres. 500 general beds were reserved in various Government, private and charitable hospitals in various localities nearer to the industrial areas. 500 T.B. beds were reserved in T.B. Hospitals. Arrangements for the rehabilitation of the disabled (T.B.) patients were also made at J.J. Hospital and K.E.M. Hospital, when referred by specialists, during the year under report. 15 Maternity Homes were recognised under the scheme for confinement of insured women. Domiciliary treatment for confinement was provided by registered midwives employed by insurance medical practitioners. Free blood transfusion was provided at the three centres *viz.*, Balhbhai Nanavati Hospital, J.J. Hospital and Indian Red Cross Society. There were 7 Ambulance Units functioning during the year under report and free ambulance service was provided to nearby insured persons on telephonic message.

General dental treatment was provided to insured persons. In case of employment injury, dentures were also provided free of charge. Facilities for providing artificial limbs were provided at the Army Centres in Poona.

Some of the industries had Occupational Health Services Clinics of their own *viz.*, Tata Industries Medical Services Clinic, Standard Vacuum Company, Medical Clinic etc., Medical Factory Inspectors were appointed by Government in Greater Bombay and other industrial cities for visiting the factories and looking after the general health of the workers there in accordance with the Factory Act and Rules.

Also the Employees' State Insurance Scheme was implemented in Nagpur (Nagpur corporation areas) in 1954 and the number of insured persons in Nagpur as on 31-12-60 was 32,884. The scheme was also implemented in Akola and Hinganghat towns in 1956 and the number of insured persons as on 31-12-60 in these two town areas were 3,473 and 3,690 respectively.

The medical benefit under the scheme was provided by the full-time service system and six State Insurance Dispensaries were set up in the various parts of Nagpur town for the purpose. The number of patients treated at Akola, Hinganghat and Nagpur dispensaries during the year under report were of the order of 31,502, 37,494 and 341,385 respectively.

One of the State Insurance dispensaries in Nagpur was kept open for 24 hours and all casualty cases were referred to this dispensary. In other places the Medical Officers attended to emergency cases when called for. An Ambulance van was provided at Nagpur for transport of insured persons from the dispensary to hospitals. No ambulance service was provided for Akola and Hinganghat dispensaries during the year under review. Beds were provided for the treatment of insured persons on priority basis at the various Government and private hospitals in all the three centres. The Employees' State Insurance Corporation and State Government had constructed a ward of 25 beds in the compound of Mayo Hospital for treatment of T.B. cases exclusively for the insured persons of Nagpur and Hinganghat. The insured persons requiring specialist opinion were sent to Medical College and Mayo Hospital at Nagpur, and also for X-ray and Laboratory Examination.

One Medical Board with Civil Surgeon, Akola as Chairman and two other Medical Practitioners was established at Akola for examination of employment injury cases of Akola. The Board met once in three months depending on number of cases to be examined. Local Committees under Section 10 (A) of E.S.I. (General) Regulation, 1950 were established at Nagpur, Akola and Hinganghat to discuss local problems in regard to E.S.I. Scheme, to refer complaints and advise the corporation on matters connected with the improvements of the scheme.

The expenditure for medical benefit under the scheme during the year under report was Rs. 5,42,964 and it was shared between the State Government and Employees' State Insurance Corporation in the ratio of 1 : 3.

The Government of Maharashtra had sanctioned the extension of medical benefit to the families of insured worker in each centre. The extension of medical benefit to families of insured workers was further implemented in Nagpur City from 22-12-1960. It was also proposed to have a Mobile Dispensary with a Medical Officer and other ancilliary Staff for rendering the medical aid to insured persons and their families residing in the out-skirts of Nagpur City and away from the existng State Insurance Dispensaries, at least 3 times during the week.

Punjab—In the State of Punjab, the Employees' State Insurance Scheme was introduced in terms of the provisions contained in the Employees' State Insurance Act, 1948. This scheme covered employees in perennial factories where power had been in use and 20 or more persons were working. In the first instance the scheme was implemented in the seven industrial towns viz., Ambala, Jagadhri and Yamuna Nagar, Chheharta and Verka, Amritsar, Jullundur City and Cantt., Ludhiana and Batala of Punjab w.e.f. 17-5-1953 under the panel system. Coveirng about 36,500 workers under the pannel system the workers were provided medical treatment from the Insurance Medical Practitioners in the Clinics situated in the close proximity of their residence. The insured persons did not feel satisfied with the provision of medical care and treatment under the panel system and stressed that this system be replaced by the service system at an early date. To this effect the scheme was switched over from Panel system to service system at Bhiwani w.e.f. 1-7-1960 and Employees' State Insurance Dispensary was established there. A sum of Rs. 21,900 was incurred on account of medicines.

There were 112 panel doctors on the list during the year under report. Their appointment was made and approved by the Allocation Committee constituted under the provision of the E.S.I. Medical Benefit Rule. The Allocation Committee constituted under the scheme also instituted enquiries against the panel doctors for lapses in providing satisfactory medical care and treatment and the defaulters were removed from the approved list on the recommendations of the committee after taking approval of the State Govt. and corporation thereto. There were 17 chemists in the approved list during the year under report and they had been supplying medicines to the insured workers as per prescriptions of the Insurance Medical Practitioners.

The various additional facilities *viz.*, free conveyance for removing serious ill patients to hospitals for admission, free X-ray and laboratory examinations, free anti-rabic treatment, post-natal and anti-natal facilities, preventive measures against epidemic diseases *viz.*, cholera, smallpox etc., free specialists consultation to the insured persons, out-patient treatment to the persons suffering from T.B., Mental Diseases, Leprosy etc., were provided to the insured workers under the scheme. Further the scheme was proposed to be extended to the new industrial areas of Hissar, Sonapat, Faridabad, Gobindgarh, Kapurthala and Kharar during the year under report covering about 17,000 additional workers with their family members, but due to the lack of the medical staff and the accommodation required for the establishment of the E.S.I. Dispensaries, the scheme in question could not be implemented during 1960.

Provision for in-patient treatment to the insured workers alone was made in the various Government Hospitals and Dispensaries and to this effect 29 beds were reserved therein. 28 E.S.I. Dispensaries were proposed to be constructed at the various industrial areas during the Third Five Year Plan in accordance with the phased programme approved by the Employees' State Insurance Corporation and the State Government. The preliminary survey for the location of the dispensaries had been in hand and steps would be taken to construct these after selection of the sites.

It may be mentioned that the State Government had agreed to the provision of an ambulance for Amritsar and Yamuna Nagar areas for transporting the insured persons for better medical facilities. A proposal for appointing more specialists at the various implemented centres was under the consideration of the Government. The State Government and the corporation had agreed to the construction of a 12 bedded ward at each R.B. Gujjarmal Kesra Devi T.B. Sanatorium, Amritsar, T.B. Clinic, Rohtak and Harding Sanatorium, Dharampur for providing inpatient treatment to the insured persons suffering from T.B. The E.S.I. Corporation had also agreed to the construction of 50 bedded General Hospital each at Amritsar and Yamuna Nagar.

Rajasthan—The Employees' State Insurance scheme was extended to Udaipur and Bharatpur, in the middle of August, 1960, covering about 1,800 employees working in factories run by power, during the year under report. The Government in consultation with the corporation sanctioned the construction of one 16 bedded ward at T.B. Sanatorium, Bari (Udaipur) exclusively for insured persons.

One ward of 15 beds, exclusively for insured persons at K.G.V. Sanatorium, Jaipur was completed. The Government had also sanctioned to the construction of 8 E.S.I. Dispensary buildings and staff quarters at Jaipur, Jodhpur, Pali, Bhilwara, Beawar, Sawai Madhopur and Sri Ganganagar during the year under report. Family Planning Centres at each Employees' State Insurance Dispensary were also sanctioned by the Government for their establishment.

In order to provide medical care to the insured persons residing in the surrounding villages of Sawai Madhopur, one Mobile Dispensary van was purchased. One ambulance van was also purchased for the conveyance of the insured persons. At Jaipur, Medical Boards for

deciding the nature of the disablement of insured persons, were set up at Sri Ganganagar and Dholpur. A regional board was also constituted under the Employees' State Insurance Scheme under the Chairmanship of the Labour Minister during the year under report.

During the year under report, 108 perennial factories remained covered under the scheme in the State of Rajasthan. 32,581 insured persons and approximately 97,743 family members of the insured persons were covered under the scheme. The cases admitted in the hospitals, number of operations performed and the number of home visits during the year under report were 944, 8,408 and 3,635 respectively.

Uttar Pradesh—During the year under report, 3 more dispensaries were sanctioned by the Government to be opened at Firozabad, Meerut and Moradabad, and the accommodation for the same had been arranged by the Civil Surgeons of the respective districts on rent and other arrangements were under progress. A hundred bedded hospital at Kanpur was under construction.

There was a proposal for construction of one T.B. Hospital at Kanpur for the treatment of insured persons and their families. The construction of the E.S.I. dispensaries all over the State was also proposed during the year under report.

For exclusive use of insured workers and in case of those requiring emergent medical treatment, an ambulance was maintained at Kanpur, where as in other towns arrangements were made in the State Hospitals to loan their ambulance for similar use. On an average about 50 patients per month were transferred through these ambulance vans.

Nearly 150,000 workers and 450,000 members of their families were covered under the scheme in the whole of the State. The medical benefits to the workers were free of cost and comprised of out-door consultation and treatment at the various dispensaries, hospitalisation and specialists consultation at the State Hospitals, and examination and treatment at the patients residence in case he was not able to attend the dispensary. The Insurance Medical Officers made domiciliary visits to the houses of the insured patients free of cost. In case of family members, the treatment was given at the E.S.I. Dispensaries only for maternity cases. The treatment was also given at their residences. The medical aid rendered was of a fairly high standard and almost all the medicines needed for the treatment and early recovery of the patient was made available to them. During the year 1959-60, Rs. 2,224,210 was spent under the scheme. The number of cases admitted in the Hospitals, cases referred to hospitals for X-ray and other investigations and the number of domiciliary visits paid by the Insurance Medical Officers were of the order of 1,736, 18,566 and 3,582 respectively during the year under report.

West Bengal—The Employees' State Insurance scheme was introduced in West Bengal in the Calcutta City and the Howrah District on 15-8-1955. During the year under report the Scheme remained operative for Calcutta and Howrah covering an average insurable population of 262 lakhs. Under the scheme various facilities for

outpatient treatment in the clinics of Insurance Medical Practitioners, Domiciliary visits, free supply of all medicines required for treatment, free transport to hospital and advice of the specialists in different branches of Medical Services etc. were provided to the insured workers. 738 Insurance Medical Practitioners were appointed for giving the outpatient treatment. The number of domiciliary visits paid by the Insurance Medical Practitioners was 43,079 during the year under report. 145 chemist shops were approved for free supply of medicines to the insured persons. Provisions were also made for diagnostic services. Arrangement were made for Radiological and Pathological examinations and examinations by the different specialists *viz.*, Medicine, Surgery, Chest, Eye, Ear, Nose and Throat and Gynaecology. There were 48 specialists and 27 Radiologists and Pathologists working under the scheme.

For the purpose of providing hospitalisation 246 general beds and 120 T.B. beds were reserved at the various hospitals during the year under report. The scheme could not be extended to the families of the insured persons nor to other areas, due to the shortage of hospital beds. However, it was decided to extend the scheme to 24-Parganas and Hooghly during the year under report. There were 4 ambulances attached to the E.S.I. Scheme to carry patients from their residences for admission in the hospital. The total cost of the scheme during the year 1960 was of the order of Rs. 4,925,968.

HEALTH IN JAILS

The health of prisoners is important in so far as it depicts the picture of medical facilities available and other ancillary aspects of jails life prevailing in different parts of the country. Besides fulfilling the above purpose, statistics relating to health in jails is of special importance for the reason that they are based on suitable diagnosis of morbid patterns of diseases and causes of sickness are authentically known, unlike that in case of the general population of the country.

During the year 1960 there were 1,247 different types of jails in the various States and Union Territories in the country excluding the States of Assam, Jammu and Kashmir, Kerala, Madhya Pradesh and the Union Territory of Pondicherry from which the information was not available. Out of 1,247 jails there were 48 central, 134 district, 1,045 subsidiary, 10 special jails, 3 temporary, 2 juvenile and 5 brostal schools. The distribution of different types of jails in the various States/Union Territories in India is given in Table 19.

Table 20 indicates the average daily population, authorised accommodation in jails and number of prisoners per 100 units of authorised accommodation. These impress us with the relationship in regard to the facilities of accommodation to the number of prisoners to be accommodated.

It is evident from the aforesaid table that the average daily population during the year under report, in comparison with the year 1959, increased substantially in the jails of Orissa, Punjab, Rajasthan, Andaman and Nicobar Islands and Manipur, while in the remaining States and Union Territories there was a decrease trend in the average daily population. The authorised accommodation

increased substantially during 1960 in the jails of Mysore and Uttar Pradesh and remained the same as it was during 1959 in the States of Andhra Pradesh, Madras, Orissa, Rajasthan, West Bengal and Andaman and Nicobar Islands. In the remaining States and Union Territories the authorised accommodation was substantially decreased in comparison with the year 1959.

The number of prisoners per 100 units of authorised accommodation shown in the last column of the table under reference is an index of over-crowding. In comparison with the year 1959, the index increased in the States of Maharashtra, Punjab, Rajasthan, Andaman and Nicobar Islands, Tripura and decreased in Andhra Pradesh, Bihar, Madras, Mysore, Uttar Pradesh, West Bengal and Himachal Pradesh. Among the States, that reported during the year under report, there was no over-crowding in any of the jails of the various States in the country.

Hospitalisation facilities for sick prisoners were available in almost all the jails of the States except in Andhra Pradesh, where it was available in Central Jails and in other States in Central as well as in other jails too. Special facilities for treatment of prisoners suffering from T.B., V.D., Leprosy etc., were available only in few jails of Maharashtra, Punjab and West Bengal where special wards and clinics were opened for the purpose during the year under report. In other remaining States arrangements were made in nearby Government Sanatoria and Clinics for the hospitalisation services for the prisoners suffering from any of the diseases *viz.* T.B., V.D. and Leprosy etc.

The hospital admissions and the death rates per thousand of daily average population along with the constantly sick rate per thousand of average daily population during the years 1960 and 1959 are given in Table 21. The hospital admission rate during 1960 was the highest in Himachal Pradesh Administration, followed by Mysore, Orissa, Rajasthan, West Bengal, Punjab and Pondicherry. During 1960, the highest death rates per thousand of average daily population were recorded in the jails of Andhra Pradesh and Orissa States and were of the order of 10.6 and 7.9 per mille of average daily population. The constantly sick rate per mille of average daily population was recorded highest in the Himachal Pradesh Administration followed by Bihar, Mysore, Orissa, Rajasthan, West Bengal and Andaman and Nicobar Islands.

Table 22 indicates the admission rates per thousand of average daily population due to various causes of sickness recorded in the various jails of different States/Union Territories in the country. Enteric Fever, Influenza, Malaria, Dysentery and Diarrhoea, Pyrexia of Uncertain Origin, other Respiratory Diseases and deficiency diseases accounted for a larger number of admissions in jails hospitals of most of the States and Union Territories in India. A few cases of cholera were reported from the States of Bihar and Uttar Pradesh. Also a few cases of smallpox were reported from Bihar, Maharashtra, Uttar Pradesh, West Bengal and Pondicherry. No. case of plague was reported from any of the jails in the country.

In Table 23 case fatality rates due to the various causes of sickness reported from different States and Union Territories in the country are presented. It will be seen from this table that in Andhra

Pradesh the case fatality was highest due to Pneumonia, followed by the other Respiratory Diseases, Anaemia and deficiency diseases and T.B. of lungs; Pneumonia and cholera in Bihar; T.B. of lungs in Gujarat; Pneumonia, Enteric Fever and other Respiratory Diseases in Madras; T.B. of lungs in Maharashtra and Orissa; Enteric Fever and T.B. of lungs in Punjab; T.B. of lungs alone in Rajasthan; Cholera, Pneumonia and T.B. of lungs in Uttar Pradesh; Anaemia and deficiency diseases alone in West Bengal. In almost all the Union Territories the rates remained more or less the same.

During the year 1960 over all increase in death rates per thousand of average daily population were recorded in the jails of Madras, Punjab, Rajasthan, West Bengal and which are presented in Table 24. This increase in death rate was attributed to the occurrence of more deaths due to other respiratory diseases and all other causes of sickness; Enteric Fever, T.B. of lungs in Punjab; T.B. of lungs, Dysentery and Anaemia and Debility; Malaria, Dysentery and Anaemia and Debility diseases in West Bengal.

Prophylactic measures such as anti-cholera, inoculations, small-pox vaccinations, anti-plague inoculations and B.C.G. vaccinations were carried out in almost all the jails of the States in the country and the statistics thereof is shown in Table 25. Statistics of the quantity of quinine and other anti-malarial drugs distributed in the various jails of States is also presented in the aforesaid table.

Table 21 also indicates the percentages of prisoners who gained in weight, remained stationary and who lost weight during the years 1960 and 1959. Increase or decrease in weight is generally interpreted as improvement or deterioration in health of the prisoners. More than 50 per cent of the prisoners gained in weight in the jails of Andhra Pradesh, Madras, Orissa, Rajasthan, Pondicherry and Tripura. Increase in percentage of loss in weight during 1960 was recorded in the jails of Mysore, Orissa, Punjab, Rajasthan, Uttar Pradesh in comparison with the year 1959. The highest percentage of loss in weight was reported from Uttar Pradesh followed by Pondicherry. As regards other States and Union Territories the position remained more or less stationary. The percentage of stationary in weight was recorded highest in the State of West Bengal, followed by Maharashtra, Bihar, Punjab, Andaman and Nicobar Islands, Manipur and Mysore.

The Jail Authorities were particularly careful about the scale and quantity of diet supplied to prisoners. Sick prisoners were given special diet as prescribed by the Medical Officers from time to time.

Facilities for recreation and literary amenities were available in almost all the jails of the States. Film shows and lectures on various informative subjects were also arranged. Out-door and in-door games were also provided in jails of some States in the country.

The various reforms and different activities in addition to those already mentioned above introduced in jails of the various States of India are summarised below :

Andhra Pradesh—Parole system (release of prisoners for short periods under suspension of sentence) is introduced in jails of the Andhra Pradesh State to enable the prisoners to attend to serious

illness, death, or marriage of any member of the family or near relative or for any other sufficient cause.

Release of prisoners on furlough for periods not exceeding fourteen days, which was in existence in Telengana area, had been extended to the entire State of Andhra Pradesh during the period under review.

Schools were functioning in all the Central and District Jails of the State. In addition to this, facilities provided to prisoners to study privately in their leisure and hours to appear for higher examinations conducted outside by releasing them on parole.

Muslim prisoners in the jails of Telengana area who observed fast during Ramzan were allowed to exchange their diets into a special diet within the cost of existing diet. The same facility is being considered to be extended to the entire State.

Prisoners Panchayat Boards were functioning satisfactorily in all the Central and District Jails. Further more, it can safely be said that stay of prisoners in jails now-a-days is planned on a reformatory and correctional basis rather than on the basis of more detention and extracting work from them within the four walls, as might have been the conception of detention in the good old days.

Mysore—In some of the Prison Institutions, adult literacy classes were conducted for the illiterate adult prisoners, apart from the regular classes conducted by the experienced teachers appointed by the Government for the purpose.

Orissa—Measures of formal education of prisoners were continued along with the efforts for their psychological and moral rehabilitation. The prison magazine "Alok" contributed by the prisoners of the Cuttack Jail continued to contribute to the cultural improvement of the prisoners.

The Government of Orissa have accorded permission to one of the post-graduate students of Ravenshaw College, Cuttack to carry an experiment on the problem of "The level of aspiration in Juvenile Delinquents" in the Juvenile Jail at Angul and Cuttack Jail. A scheme for filariasis enquiry in the jails at Cuttack, Puri, Beharampur was introduced under the auspices of the Malaria Institute of India. The scheme also extended in the Balasore Jail.

Punjab—In accordance with the present policy of reformation and rehabilitation of prisoners as against deterrence followed during pre-independence days, Punjab State took measures for their moral, social and mental uplift with a view to change the attitude and implant in them new values and new out-look on life. Special attention was paid to their education, health and recreation. Elementary adult education was compulsory for the prisoners which was conducted by paid teachers assisted by convict teachers who were given reward and remission. The aim of keeping prisoners behind the bars is no more re-tributive and deterrent as was in the pre-partition days.

The prisoners were also associated with Panchayats (formed since 1957) in Jails.

Uttar Pradesh—The Panchayat system was also continued in all jails in the State. The experiment of making the inmates self-supporting by working under conditions as akin to outside world as possible was continued in few jails by employing the inmates in some useful labour. For improving their mental health and developing better social and family ties, the scheme for granting seasonal parole to selected agriculturist inmates and “home leave” also continued with successful result.

West Bengal—During the year under review, a scheme was sanctioned for training of female prisoners of Presidency Jail in sewing and embriodery work as an experimental measure.

Two Jail Officers—One Deputy Jailer and one Discipline Officer—were deputed during the period for a nine months’ course of training in Correctional Administration at the Jail Training School, Lucknow. Special diet was allowed to prisoners who observed fast on religious grounds on different occasions.

Himachal Pradesh—This Administration had started an Open Air Jail at Bilaspur. Prisoners were allowed to earn their wages.

Pondicherry—There was a proposal to open a library for the use of the prisoners during the period under report.

Laccadive Islands—There were only very small jails in this Administration, where prisoners or undertrials were lodged only for a short period. The health conditions in the jails in this Union Territory were satisfactory.

FAIRS AND FESTIVALS

Table presented below shows the number of fairs and festivals held in the various States/Union Territories in India during the year under review. From the table it is clear that the number of such fairs and festivals were held in India in a large number. Mostly they are in relation to some religious events. It is a common knowledge that these fairs and festivals, usually serve, as a media for the spread of different diseases especially that of cholera. To prevent the outbreak and spread of any epidemic diseases the Health Directorates took adequate preventive and curative measures. The aforesaid table also shows the strength of congregation, varying from State to State during the year under report.

States/Union Territories	No. of fairs and festivals held	Approximate total congregation on such occasions
1	2	3
1. Andhra Pradesh	115	32,31,000
2. Assam	8	10,000 each
3. Gujarat	14	11,05,000

1	2	3
4. Kerala	245	5,000 for small festivals and 10,000 to 80,000 in other cases.
5. Maharashtra	185	39,12,450
6. Madhya Pradesh	32	..
7. Rajasthan	292	26,58,717
8. Himachal Pradesh	37	4,00,000
9. Manipur	2	10,000 each.

The salient activities of the various State Health Authorities in regard to the control of the spread of any of the quarantinable diseases, especially that of cholera, during the fairs and festivals are summarised below:

Andhra Pradesh—During the year 1960, 115 fairs and festivals, each having a congregation of 10,000 and above, were held and the corresponding approximate total congregation was 32,31,000. No fair and festivals were banned during the year for reasons of public health.

Provision of safe drinking water by protecting the existing sources and their chlorination with adequate dosage of bleaching powder was arranged. The Public Works Department provided protected water for the perennial pilgrim centres of Srisailam and Badrachalam under the protected water supply schemes. Supervision of sanitation measures such as rubbish, night soil and conservancy was done by the Public Health Staff.

Sanitary control of food in eating houses, coffee hotels, sweet meat stalls etc., were tightened up.

Protection of pilgrims against cholera and smallpox was also carried out by mass prophylactic anti-cholera inoculations and vaccinations. Adequate arrangements were also made for the prompt isolation and treatment of all infected cases of infectious diseases in all festival centres by providing emergency isolation sheds. The sanitary requirements of each festival minor or major were carefully scrutinized well in advance of the festival and instructions were issued for carrying out specific sanitary arrangements required. There was no out-break of any of the epidemics during the melas.

Assam—Eight fairs were held nearly with a congregation of 10,000 each during the year under report. All necessary preventive measures were undertaken to prevent the out-break of epidemics in the fairs and festivals of all communities as in the previous year. There was no out-break of epidemics in the melas during the year covered by this report.

Gujarat—14 fairs and festivals held in Gujarat State together with the approximate congregation of 11,05,000 persons in different places.

The necessary sanitary and preventive measures were undertaken in all the fairs and festivals. All the fairs both major and minor held in the State during the year 1960 passed with a clean bill of health. No attacks and deaths from any of the epidemics were reported during the melas.

Kerala—245 fairs and festivals were held during the year under review. With an approximate congregation of 5,000 for small festivals and 10,000 to 80,000 in other melas.

In the rural areas, the Health Staff of the Department of Health Services supervised the work of control of diseases and sanitary facilities. Special staff were deputed for important festivals attracting a large number of people. In the municipal areas the Health staff of the Municipalities controlled the work. The local bodies constructed temporary urinals, latrines etc., and spent the money from their funds for making such arrangements. No epidemics had broken out at the places of fairs and festivals during the year under report.

Madhya Pradesh—32 important fairs and festivals were held. A large congregation of people attended each fair. To prevent outbreak of epidemics all possible preventive measures were undertaken and large-scale extra staff was employed. Anti-cholera inoculations were arranged at several places. Public health procedures and techniques and strict vigilance during the fairs were pre-eminently successful.

Maharashtra—The number of fairs and festivals held was 185, where approximately 39,12,450 pilgrims attended. There was no ban on fairs or festivals for reasons of public health. 19 Infectious Diseases Hospitals were opened temporarily for those fairs and festivals. The number of anti-cholera inoculations and smallpox vaccinations performed were as stated below:—

Description	Mela grounds	Earlier among Pilgrims
Anti-Cholera inoculations	1,91,411	1,40,454
Smallpox vaccinations	16,568	11,555

The Medical Officers, Sanitary Inspectors, Vaccinators, Sanitary Sub-Inspectors, District Health Officers etc. also visited the fairs for inspecting sanitary arrangements.

Necessary arrangements for pure water supply to pilgrims for drinking, bathing and other purposes were made during the fairs from the available sources such as wells, tanks, rivers, springs, motor tanks, etc. Water was disinfected by the public health staff by T.C.L. In some cases Filtration Unit was provided by Public Health Engineer.

Sufficient number of latrines and urinals were constructed for pilgrims in fair areas, separate for males and females. The fair areas and Dharmasalas were cleaned twice, thrice a day and refuse so collected was dumped in suitable places. Hotels and restaurants and other shops of eatables in fair areas were inspected for the maintenance of their cleanliness etc. The Managing Authority of fairs took

utmost care to supply pure water, to maintain good sanitation, lighting so as to avoid out-break of epidemics during fairs and festivals.

Cinema shows on cholera, smallpox, leprosy, etc., were given; posters on health propaganda were distributed; magic lantern, talks and other public health activities were carried out through public health staff and propaganda van during the fairs and festivals held in the year under report.

Punjab—A number of fairs and festivals were held during the year 1960, in the Punjab State. Such gatherings are held responsible for the out-breaks of epidemic diseases, like cholera, etc. The Punjab Health Directorate, on such occasions, undertakes all preventive measures by making adequate sanitary arrangements.

Rajasthan—The total number of important fairs and festivals held in this State and the estimated population attending the fairs reported were as under:—

Total number of fairs	292
Total congregation	26,58,717

The health staff visited the sites of the fairs and assisted the Mela Authorities in making health arrangements like urinals, latrines, drinking water, bathing place etc. The precautions for the prevention of contamination of eatables were taken. Wherever there were big congregations, a mobile dispensary was arranged and, if necessary, isolation camps were established. 47 temporary infectious diseases hospitals were opened. The number of anti-cholera inoculations performed on mela ground was 13,022 and earlier among the intending pilgrims was 5. The number of smallpox vaccinations performed on mela ground was 1,826 and for the intending pilgrims was 2,509. Doctors, Compounders, Sanitary and Health Inspectors, Vaccinators etc., were deputed for prevention and control of communicable diseases. No out-break of epidemics were reported during the melas in 1960. Films shows and public health exhibitions were arranged.

Uttar Pradesh—All fairs and festivals passed off without any out-break of infectious diseases. Inoculations against cholera was made a condition of entry into the more important of them, viz., the Ram Naumi and Sawan Jhula fairs at Ayudhya; the Ayed Salar at Bahraich, two fairs in Basti district and along the pilgrim routes to Badrinath, Kedarnath, Gangotri and Jamnotri.

Himachal Pradesh—37 fairs and festivals with a total congregation of approximately 4,00,000. On the average a congregation of more than 10,000 on each occasion was held during the year 1960. There was no ban of such fairs for reasons of public health.

No infectious diseases hospitals required to be opened during the fairs. Public Health Staff including Medical Officers of Health attended these fairs and made necessary arrangements such as provision of safe drinking water supply, general cleaning, inspection of eatables etc.

The Superintendent of Vaccinations, Sanitary Inspectors, Vaccinators, etc., were deputed on each occasion to look after the sanitation, prevention and control of infectious diseases. There was no out-break of epidemics during the fairs held in the year under review.

Manipur—Two fairs Baruni and Bora were held in this Territory with an approximate congregation of 10,000 persons on each occasion which passed off safely without out-break of epidemics. One Medical Officer with adequate staff for first aid measure was deputed. No prophylactic measures against cholera or smallpox were undertaken as it was of short duration.

Laccadive Islands—No fairs held in this Territory. The major religious festival is the Ramzan, but the congregation at this festival was smaller as the population of the Islands itself being small.

NUTRITION AND WELFARE FOOD

Public Health Nutrition work in this country is mainly carried out by the Government through the health services, both at the Centre and at the State levels. The assessment of nutritional status of the people and measures taken for its improvement form the basis of nutritional work. In this connection, the Directorate General of Health Services in the Central Ministry of Health, Government of India, New Delhi—co-ordinate the nutrition activities in the different States and guide the policy of nutrition work, such as diet and nutrition surveys, ameliorative measures like special requirements of vulnerable groups, school feeding, distribution of milk, vitamin tablets, cod liver oil, etc., to expectant mothers and children, production of nutrition foods, nutrition research; nutrition education and publicity. The Deputy Assistant Director General (Nutrition) is in charge of nutrition work in the Directorate General of Health Services, Ministry of Health, Government of India, New Delhi.

Diet and nutrition surveys carried out in the different States, both in the urban and rural areas, have shown that the diet in general is mainly composed of cereals and is deficient in quality foods, such as milk, meat, eggs, vegetables and fruit and is, therefore, ill-balanced and lacking in essential nutrients. This combined with poor environmental sanitation results in prevalence of malnutrition in large sections of the population. *Protein malnutrition* is also largely prevalent among growing children, especially in the low socio-economic groups. Apart from dietetic deficiencies, such as Xerosis conjunctiva, stomatitis, scurvy, caries, anaemia, gross muscular wasting, etc., prevalent among growing children, endemic goitre is also common on the Southern slopes of the Himalayas, such as Himachal Pradesh, Kangra District of Punjab, parts of West Bengal and Bihar, etc. Necessary steps are being taken by the Government for control of endemic goitre and distribution of iodised salts in the affected areas. The Government of India in collaboration with the Government of Punjab, Indian Council of Medical Research and W.H.O. have undertaken a Goitre Pilot Survey Project in Kangra District of the Punjab State.

In order to combat malnutrition and improve the nutritional status of the people, important ameliorative measures undertaken by the Central and State Governments during the last few years include school meal programmes specially in the primary and elementary schools, for providing meals, snacks and milk to children, community feeding programme for distribution of UNICEF milk, vitamin tablets, cod liver oil etc., on a large scale to vulnerable groups, particularly expectant mothers and children through schools, maternity and child welfare centres, schools and hospitals.

Besides, specific measures for the control of diseases such as endemic goitre, lathyrism and fluorosis are being taken through the Indian Council of Medical Research. The respective working parties set up by the Nutrition Advisory Committee were considering these problems and they have made some useful recommendations. The control of endemic goitre is already being done under the Goitre Control Scheme. The control of lathyrism and fluorosis require more research and this is being pursued. As regards lathyrism, the banning of the sale and cultivation of lathyrus sativus and growing of alternative pulse crop in those States where lathyrism is prevalent, has not so far been implemented, though recommended by the Nutrition Advisory Committee.

Distribution of skim milk from UNICEF :

The large scale distribution of UNICEF milk through schools, and M.C.W. Centres, which was started in the year 1949-50 for the benefit of expectant and nursing mothers and children below the age of 4 years has been continuing since then. At first, 17 States participated in the feeding programme but now this is being carried out in all the States. Further, this has now been extended to hospitals also. Distribution is being done through the Director of Health Services of different States.

The Long Range Feeding Programme through schools and M.C.H. Centres was first initiated early in 1954, with supplies of 3,200 short tons of milk powder allotted by UNICEF in September, 1954. Quantities of skim milk powder allotted by UNICEF for the regular feeding programmes during the period 1953 to 1958 are shown below :

September 1953	.	.	.	.	.	.	.	.	3,200 short tons.
September 1954	.	.	.	.	.	.	.	.	3,000 do.
March 1955	.	.	.	.	.	.	.	.	3,200 do.
September 1955	.	.	.	.	.	.	.	.	5,000 do.
March 1956	.	.	.	.	.	.	.	.	5,250 do.
April 1957	.	.	.	.	.	.	.	.	8,500 do.
March 1958	.	.	.	.	.	.	.	.	7,780 do.
September 1958	.	.	.	.	.	.	.	.	6,740 do.

This programme has been considerably expanded since 1955 so as to include more schools, particularly in Community Project areas, with benefit to the health of the beneficiaries. Table 26 gives details of State-wise skim milk allocation through Maternity and Child Health Centres and Schools during 1960-61. Table 27 gives the State-wise distribution of number of beneficiaries and quantities of milk allocation etc., during 1959-60.

The result of distribution of skim milk has shown that it has improved the nutritional stages of the beneficiaries and made them milk conscious.

School Health Service and School Meals Programme :

School feeding programmes have not been organised on an all India basis due to want of financial allotment and other facilities in the different schools, but this is being carried out in many of the States, particularly in Maharashtra, Madras, Uttar Pradesh, Andhra Pradesh, Madhya Pradesh, Kerala and West Bengal, where the child-

ren, especially in the primary and elementary schools, are given milk and in some of the schools nutrition snacks such as fruit, roasted gram, etc. In Madras schools mid-day meals were provided to the mal-nourished children. Besides, supplements like vitamin tablets and fish liver oil are also distributed to under-nourished children in some of the States.

Schemes for initiating health service and school meals on an all India basis are now under active consideration. A School Health Committee was appointed by the Government of India, Ministry of Health in April, 1960, under the Chairmanship of Smt. Renuka Ray, M.P., in order to examine the present position of school health programme in the country in all its aspects, including school meals and nutrition education and make recommendations for a programme on a national basis.

Industrial Canteens :

Industrial Canteens have been established in most of the big industrial cities in the different States such as Bombay, Calcutta, Madras and Hyderabad, where the workers are provided tea and snacks and in some canteens meals.

Dietician's Training Course :

Realising the urgent need for trained dieticians in this country, a diploma course in dietetics in the Calcutta University was started in the year 1947 at the All India Institute of Hygiene & Public Health, Calcutta, in collaboration with the Calcutta Medical College Hospital, for training dieticians as a result of which 12-15 dieticians are receiving diplomas every year.

Establishment of Special Diet Kitchens in Hospitals :

A scheme for the establishment of diet kitchens in hospitals in the States was included in the Second Five Year Plan schemes of the Ministry of Health as a continuation scheme and an allocation of Rs. 2 lakhs was made for this purpose. Under the scheme, which provides for the establishment of 12 diet kitchens, a non-recurring grant of Rs. 6,000 per annum for the purchase of equipment and a recurring grant of Rs. 6,000 per annum on account of pay and allowances of the staff for a period of two years for each diet kitchen, from the date of establishment of the diet kitchen, was given. All the other expenditure involved in the implementation of the scheme was to be met by the State Government institutions concerned.

All the 12 diet kitchens envisaged in the Scheme were allotted to the State Governments as follows :

1. Andhra Pradesh	2	Diet kitchens
2. Bihar	1	do.
3. Madras	3	do.
4. Uttar Pradesh	1	do.
5. West Bengal	1	do.
6. Maharashtra	1	do.
7. Punjab	1	do.
8. Madhya Pradesh	2	do.
TOTAL	12	do.

Nutrition Publicity :

Education of the lay public and making them nutrition conscious contribute a great deal towards improving the diet of the masses. This is being done both by the Central Directorate of Health and State Health Directorates through press, radio and exhibitions. The Directorate General of Health Services have published small pamphlets on nutrition for the lay public entitled, 'BALANCED DIET', 'MEALS FOR THE YOUNG' and 'NUTRITION'. These publications help the layman to work out balanced diets at reasonable cost from the available foodstuffs, apart from educating him on the A, B, C of nutrition. The Directorate General of Health Services also publish Health Bulletins, giving technical knowledge to the public. Health Bulletin No. 23 is having wide circulation and is very popular with the lay public. This gives information for constituting balanced diets and food value of different types of foods.

The Nutrition Advisory Committee of the Indian Council of Medical Research chalks out the policy of nutrition research work in the country and sponsors schemes for nutrition research in the different laboratories.

Consumer Trials with Multi-purpose Food and Nutro Biscuits :

Feeding trials with Indian multi-purpose food have been carried out during the last three or four years in schools, residential institutions, Maternity and Child Health Centres, hospitals etc. The trials were conducted with a view to improve the protein deficiency in the average Indian diet. The multi-purpose food is made from vegetable sources available in the country, *viz.*, a mixture of specially processed defatted groundnut flour 75 per cent. and roasted bengal gram flour 25 per cent. fortified with synthetic vitamins and minerals, to suit the Indian taste and food habits. Feeding trials with this food have given encouraging results in improving the health and weights of children. The food can be incorporated in any of the dishes taken by the people, such as dal, chapaties, vegetables or any other snacks. It can also be made into sweet dishes like barfi or chikki or into savoury dishes like khichri or upumm $\frac{1}{4}$ oz. to $\frac{1}{2}$ oz. per capita per day to begin with would be convenient quantity to supplement the average Indian diet.

Trials conducted in the hospitals with children suffering from protein deficiency and oedema have also given good results in combating these diseases. Relief was seen in about 6 weeks' time.

Nutro biscuits have since been prepared by using 15 to 20 per cent. peanut flour in its composition in order to provide a high protein food, containing 20 per cent. protein and fortified with vitamins and minerals. Nutro biscuits are very popular with school children as well as with adults and patients. M.P.F. and Nutro biscuits will, therefore, have great future possibilities in the nutrition programme of this country, especially for feeding of vulnerable groups. In order to produce M.P.F. on a large scale, a 4 ton plant has been put up in Coimbatore. Government is also having plans for putting up more such plants in other States.

Training in Nutrition :

The Nutrition Research Laboratories, Hyderabad have been conducting short term course in Nutrition for training technical personnel, from different States, such as doctors, health visitors, public health nurses etc. A course leading to a Diploma in Nutrition and Dietetics is also conducted at the All India Institute of Hygiene and Public Health, Calcutta.

Syllabus on Health Education and Nutrition Education in Primary and Middle Schools :

A Committee on Health Education and Nutrition Education formed by the Ministry of Education, has finalised a syllabus for imparting health education and nutrition education in primary and middle schools for children of the age groups 6-11 and 11-14. The introduction of this syllabus in the schools in different States in the Third Five Year Plan period would be the best method of educating the younger generation in matters of health and nutrition.

Expanded Nutrition Programme :

An Expanded Nutrition Programme has been started in rural areas in the States of Orissa and Andhra Pradesh, with international aid from UNICEF, FAO and WHO, for production of nutrition and protective foods such as eggs, poultry, fish and vegetables in school gardens and their distribution to pre-school and school children and expectant mothers with the help of concerned Government Departments, Mahila Samithies and Village Panchayats.

Apart from encouraging the production of more protective foods in rural areas to meet the shortage of these foods to make up a balanced diet, the programme has served a useful purpose of imparting practical nutrition education, not only to mothers, but to school children through school gardens and school meal programmes. It has also helped in inculcating healthy food and dietary habits among children which ultimately are spread to the homes in rural areas.

National Nutrition Advisory Committee :

In order to chalk out a National Nutrition Policy for India and for improving the nutritional status of the population, a National Nutrition Advisory Committee was set up in June, 1960 with Union Minister for Health as its Chairman and Union Minister for Agriculture as the Pre-Chairman.

The Committee consists of representatives of the Union Ministries of Health, Scientific Research and Cultural Affairs, Food and Agriculture, Commerce and Industry, Community Development and Co-operation, Education and Defence and of various important organisations in the country dealing with matters connected with food, agriculture and nutrition.

The Committee expressed the view that the formulation of a national nutrition policy would require an approach from various angles. For this purpose, it is necessary that production targets of different kinds of foods are determined with reference to the provision of a balanced diet for as many people in the country as possible.

It was, therefore, necessary that the best methods to bridge the existing gaps between available food, desirable targets of supply and nutritive standards must be explored.

The Committee appointed three working groups to undertake detailed studies and formulate specific proposals on (1) production and utilisation of food, (2) training, education and extension services in the field of nutrition, and (3) programmes designed to improve nutritional status of population groups and their implementation.

Nutrition work in the States :

ANDHRA PRADESH

Community Feeding—There are 650 M.C.H. Centres in Andhra Pradesh, organised by District Boards, Panchayat Boards etc. In Tellangana, there are 126 M.C.W. Centres. The Government provides milk, eggs etc., besides skim milk donated by UNICEF.

BIHAR

School Feeding—Mid-day meal scheme is functioning in some of the schools where snacks are served, the cost of which is contributed by the children themselves.

Industrial Canteens—There are a few industrial canteens in the State which supply meals and snacks to the workers at cheap rates.

MAHARASHTRA

Community Feeding—The maternity staff advise the expectant mothers on food. Under the Bombay Municipal Corporation there are 9 Maternity Homes. There are 20 M.C.W. clinics.

In Poona Municipal Corporation, there are 6 M.C.W. centres and a croche attached to child welfare centre.

GUJARAT

In Ahmedabad Municipal Corporation, one Infant Welfare Centre functioned. About 35 infants were given pastourised milk ($\frac{1}{4}$ seer) with sprouted pulses snacks etc.

School Feeding—Under the Bombay Municipal Corporation, 8 oz. of toned milk is given to under-nourished children attending the primary schools. Snacks or fruits are also given with toned milk to under-nourished children. The daily average number of beneficiaries is about 54,000. Each child is given 1 oz. of chiki (Caloric value 123) on four days in a week. On the remaining two days any of the seasonal fruits (either a banana or an orange or a chikoo) is given.

Under the Poona Municipal Corporation, 500 selected under-nourished children attending primary classes get block of toffee made from groundnut, gur etc., yielding 200 calories. Considerable improvement in health of the children has been noticed.

The Ahmedabad Municipal Corporation has arranged for snacks at cost price in 30 Municipal Schools.

Square Meal Canteen—There is a Government canteen instituted in 1945, for the benefit of the ministerial and other staff of the Government Secretariat. The Nutrition Department had formulated the balanced vegetarian meal, yielding about 1,100 calories. The establishment charges are mostly borne by the Government.

The meal consists of rice, chapatis, a pulse preparation, vegetables including a salad, buttermilk, chutney, etc. About 400 dinners are regularly taking advantage of this "Square Meal". The actual cost of the meal including the overhead charges is 62 nP. However, each dinner is charged 44 P. only. The canteen also provided a well-balanced meal to general public in the evening. The menu for the evening meals is more or less the same as for the noon meal, with an addition of one more vegetable and a special dish.

The evening meal yields about 1,250 calories and the charges is 69 nP.

The Square Meal Canteen, Bombay is continuing to function. About 750 people took advantage of the meals daily.

Industrial Canteens—There are several industrial canteens in Bombay State. The exact number is not given in the Quarterly Reports.

The service of tea and a few snacks is provided by all canteens in general, some of them also provide full meals in one of the following ways :—

- (a) A full meals plate (thali) at a definite price,
- (b) The 'ala carte' service, which affords the workers the choice to select his meal from a number of food preparations as in a restaurant, and
- (c) Food preparations (side dishes) which the workers select for supplementing the food brought from home.

However, a fair number of workers buy foodstuffs like cooked vegetable, meat carry etc., to supplement bread, chapati or rice brought from home.

MADRAS

Since the inception of the Nutrition Bureau in the Public Health Department in 1944, extensive diet and nutrition surveys were carried out in the State. These surveys revealed widespread prevalence of diseases attributable to the deficiency in the diet of proteins, vitamins and of minerals.

Towards combating malnutrition among the infants, children and mothers who constitute the vulnerable segment of the population various ameliorative measures are being carried out in this State as stated hereunder :—

With the assistance of the UNICEF, a large scale skim milk feeding programme has been functioning in this State since 1950. Under this scheme, about 25,000 mothers and 34,000 children are at present receiving skim milk through over 1,600 distribution centres

Maternity and Child Health Centres, Primary Health Centres, Paediatrics Sections in the Hospitals etc., in the State. The distribution of the Skim Milk powder at the rate of 1.5 ozs. per child daily offers protein necessary in the growth period to the extent of 16 grams. The UNICEF allotted 7.5 lakhs of skim milk powder for the year 1960-61, and have offered to allot 10 lakhs lbs. of skim milk powder for the year 1961-62 for this feeding programme.

With the object of improving the health and nutritional condition of the elementary school children an organised school lunch programme was sponsored by the Education Department with people's contribution and Government assistance. This scheme which has made remarkable progress with people's enthusiasm during the short period of three years, covers at present about 9 lakhs of children attending over 24,000 elementary schools in all the districts. It has been proposed to further expand this programme during the year 1961-62, by including one lakh of additional children.

Besides, schemes of provision of free mid-day meals to the children of eligible communities attending the labour schools under the Government Harijan Welfare Department and to the poor and malnourished children of the elementary schools in Madras City under the auspices of the Madras Corporation have been functioning for a very long period. Also several secondary schools in the State provide free mid-day meals on a voluntary basis. Altogether, over one lakh of school children are benefitted under these schemes.

Towards enriching the nutritive value of the mid-day meals provided to the school children and for combating protein malnutrition among the children, Government have under consideration a scheme for the inclusion of high protein food (multi-purpose food) in the mid-day meals. As an experimental measure, the multi-purpose Food is being added at present to the mid-day meals served to the children under the school lunch programme in Coimbatore and six other education districts. For the production of the Multi-purpose Food required for this project, a plant has already started set up in Madras City. Besides, there is also a proposal for the free distribution of seeds of green leafy vegetables and other vegetables to the schools and educational institutions for purpose of rearing kitchen gardens so that the produce may be utilised in the school lunch programme with advantage to enrich the lunch with vitamins and minerals.

The Central Nutrition Bureau arranged for the distribution of food supplements *viz.*, multi-vitamin tablets, shark liver oil, calcium lactate, fersolate, yeast, etc. to the needy children in selected institutions based on the results of the nutrition survey undertaken. The Maternal and Child Health Centres in the State also distributed food supplements to the children and mothers for correcting specific deficiency and diseases: with the supplies of food supplements received as gift from the UNICEF for distribution through Maternal and Child Health and Primary Health.

Besides undertaking the ameliorative measures as stated above, steps are also taken to educate the public on the need to include locally available cheap nutritious foodstuffs *viz.*, green leafy vegetables etc., in the diet for correcting the prevailing deficiencies as

revealed in the diet surveys. Nutrition exhibition, distribution of pamphlets and leaflets, radio talks, group talks and lectures, film shows formed the medium for nutrition education in this State. In undertaking Nutrition educative campaigns the Health Education Bureau actively assists the Nutrition Bureau of this Department.

A scheme of an Expanded Nutrition Programme with the UNICEF assistance designed for increased production of protective foods, (*viz.*, milk, eggs, fish, vegetables etc.) and their consumption by the vulnerable groups, to be implemented in selected areas is under active consideration.

UTTAR PRADESH

School Feeding—A mid-day meal programme was in force in most of the Higher Secondary Schools in urban areas of the State. It was in operation in about 400 institutions, covering approximate 1,20,000 students. A fee of Rs. 8 charged from the students in urban higher secondary schools was insufficient for providing a good mid-day meal. The students were given boiled, peasted or sprouted gram, groundnuts, puffer rice, boiled potatoes and seasonal fruits etc.

In rural primary and junior high schools, the boys mostly took their mid-day meals from their homes. They also purchased their snacks from hawkers.

Industrial Canteens—100 Industrial canteens continued to serve refreshment and tea etc. to the employees in the State.

WEST BENGAL

Human feeding trial—Arrangements were made for a consumer trial with M.P.F., prepared at the C.F.T.R.I., Mysore, under the guidance of Assistant Director of Health Services, West Bengal, in the S.K. Girls High School in Calcutta, under school feeding programme. The account will be given in the next report.

There were some Industrial Canteens in West Bengal. The number is not given in the Quarterly Reports.

ADULTERATION OF FOOD

The Prevention of Food Adulteration Act, 1954, was brought into force on the 1st June, 1955.

The Central Committee for Food Standards was established with effect from the 1st June, 1955, under Section 3 of the Act, to advise the Central Government and State Governments on matters arising out of the Administration of the Act and to carry out other functions assigned to it under this Act.

The Central Food Laboratory, Calcutta, which is an appellate Laboratory, is set up under Section 4 of the Prevention of Food Adulteration Act, 1954.

The effective implementation of the Prevention of Food Adulteration Act is the responsibility of the State Governments who provide necessary laboratory facilities for testing the samples of food articles.

Information regarding the number of food samples examined, found adulterated and the number of prosecutions launched and fines realised thereon etc., in different States during the year 1960, is shown in Table 28. The break-up of the various types of food samples examined etc., is shown in Table 29.

The total number of food samples analysed under the Prevention of Food Adulteration Act, 1954 in the entire country is a little over 1,22,000 of which 37,837 samples were found adulterated indicating the percentage of adulteration as a little over 30. The number of prosecutions launched in the year under report is 39,789. This number is higher than the number of samples found adulterated presumably for the reason that some of the prosecutions relating to the year 1959 were not launched in the same year, but were carried over and launched in 1960. The number of convictions in the year under review is 22,886 which is very satisfactory compared to the number of prosecutions launched. The total number of persons imprisoned was 601. The amount of fines realised is a little over Rs. 16,62,000.

RAILWAYS HEALTH SERVICES

There were eight different Railways *viz.*, Central, North Eastern, Southern, Northern, Eastern, South Eastern, North East Frontier and Western functioning in the country during the year under report. In addition to this Chittaranjan Locomotive Works, West Bengal also functioned during the year under report. Each railway had its own medical and public health organisation which catered to the needs of its staff and looked after the sanitation and other public health problems for its railway stations and railway settlements.

Medical facilities provided in all the railways were on the whole satisfactory. Each railway had well equipped hospitals and Dispensaries, some of which had special facilities for X-ray diagnosis and advanced methods of treatment for diseases. As regards Tuberculosis, extra provision was made by reserving beds in the nearest institutions falling within the purview of the particular Railway Administration.

Table 30 indicates the number of hospitals, dispensaries, sanatoria and clinics, beds available in these institutions for in-patients care and the number of beds reserved for Tuberculosis patients for each Railway Administration in 1960, along with the corresponding figures during the year 1959. It is apparent from the figures shown in the table that during the year under review, there was an increase of one hospital each in the Central Railway and South Eastern Railway.

There was also an increase of 4 hospitals each in the Western Railway and North Eastern Railway. The number of dispensaries also increased in all the Railways except in the South Eastern Railway and Chittaranjan Locomotive Works, West Bengal. Also, there was a significant increase in the number of beds for T.B. patients reserved in other institutions during the year under review in comparison to the previous year. The totals for these came out to be for all the Railways together 1,122 and 1,023 during 1960 and 1959 respectively.

Table 31 indicates the comparative figures of Maternity and Child Welfare Centres together with the number of beds available therein and the staff employed along with the work done during the years 1960 and 1959. The number of such centres increased in the Railway Administrations of Central, Southern, North Eastern and South Eastern during the year under report. Consequently, there was an increase in the number of beds available in such centres in the Central and Southern Railways. On the whole, the position remained more or less steady in comparison with the previous year. The number of other classes increased considerably in the Railway Administrations of Western and South Eastern and decreased in the Northern Railway, Southern Railway and Eastern Railway.

Table 32 shows the medical and health staff employed in different Railways during the year under report along with the corresponding figures during the year 1959. There was an increase in the staff employed in all categories. Thus the extent to which the services were provided in various Railways improved. The total expenditure on medical and public health services separately incurred by the various Railways during the fiscal years 1960-61 and 1959-60 is shown in Table 33. It is worth mentioning that more expenditure was incurred during the year under review in all the Railways except the Chittaranjan Locomotive Works, West Bengal, wherein the figures of expenditure shown relates upto February, 1961. Tables 34 and 35 show the patients treated for different causes of sickness and the preventive measures undertaken by the various Railway Administrations during the years 1960 and 1959 respectively.

A summary of health activities in each of the Railway Administrations based on the reports received from their Chief Medical Officers is given below :—

Central Railway

During the year under report 732,912 patients due to different causes of sickness were treated in 11 hospitals and 59 dispensaries as against 755,719 treated in 10 hospitals and 55 dispensaries during the year 1959. A comparative statement of statistics of cases and deaths from different causes during the years 1960 and 1959 is shown in Table 34. It may be seen from the table that the most prevalent diseases were Dysentery and Diarrhoea, and Fevers. 156,017 and 88,503 cases were treated for Fevers and Dysentery Diarrhoea respectively during the year under report. The incidence of these diseases was higher during the year 1960 than in the year 1959 in both the cases. Similarly 3,852 cases from Malaria were treated during 1960 in comparison to 23,706 cases in the year 1959.

More Tuberculosis (all forms) cases were treated during the year under report than in the previous year.

Special anti-malarial measures were taken in endemic areas for six months in a year by way of distribution of paludrine for suppressive treatment and spraying of quarters, service buildings etc., with D.D.T. special staff were appointed for the purpose.

During the year under report 21,216 lbs. of D.D.T. was used. Other preventive measures *viz.*, anti-cholera inoculations, smallpox vaccinations, anti-plague inoculations and anti-typhoid inoculations performed during the year 1960 and 1959 are given in Table 35.

Sanitary conditions in Stations were under constant supervision and remained satisfactory throughout the year. Adequate arrangements were made to safeguard the health passengers attending fairs and festivals of which 58 Stations and Colonies were affected.

During the year under report concessions continued, to be granted to employees out of the "Staff Benefit Fund" in regard to bearing equipment, artificial limbs, cost of spectacles and maintenance grants to T.B. patients etc. A sum of Rs. 9,559 was also given as honoraria to Dental Surgeons out of the "Staff Benefit Fund" during the year under report.

As regards the protected water supply, it may be mentioned that 119 stations and colonies were having this facility while the remaining 950 Stations, the main sources of water supply were wells. The filtration of water by means of mechanical filters was effected at 40 stations. The supply of genuine food was satisfactory throughout the year as judged by the percentage of samples found genuine.

The prevention of Food Adulteration Act, 1954 was not fully implemented on this Railway during the year under report. This Act was brought into force in the Railway Settlement Notified Area at Jhansi with effect from 6th January, 1959 and the question of implementing the Act on other Railway Stations was being looked into.

285 classes in First Aid and 8 classes in Home Nursing were held during the year under report as against 192 classes in First Aid and 7 classes in Home Nursing in the previous year.

Films on various subjects were exhibited for the benefit of Railway Employees and their family members in various Railway Colonies. Notifications for adopting the precautionary methods against the spread of the epidemic diseases *i.e.*, Cholera, Smallpox, Diphtheria Enteric Fever etc., were made available through the medium of Weekly Gazette and Railway Magazine.

North Eastern Railway

Four Health Centres at Sonapore, Garhara, Badshahnagar and Gonda were upgraded as hospitals during the year under report and a total of 135 beds were provided in these hospitals to cater to the medical needs of the Railway employees and their families falling under the jurisdiction of these hospitals. A new Children Corner for the recreation of the children admitted in the Central Hospital, Gorakhpur. A library was provided in the hospitals of this Railway for recreation of the patients undergoing treatment as indoor patient.

The supply position from the Government Medical Stores had improved during the year under report. The Staff Benefit Fund gave monetary assistance to the T.B. patients who were on long sickness either in the Sanatorium or in the Railway Chest Clinics. Free supply of diet was made to the T.B. patients.

Maternity and Child Welfare Centres were provided at Headquarters Hospital, Gorakhpur and District Hospitals Samastipur, Varanasi, Izatnagar and 19 Health Centres.

Necessary advice and instructions were given regularly to the women attending the centres and during house visits by the staff entrusted with Family Planning works.

There was no out-break of any communicable disease in an epidemic form. Mass vaccinations and inoculations were carried out as a preventive measure apart from maintenance of good environmental sanitation safeguarding of water supplies and food etc.

Due to fairs and festivals 39 Railway Colonies and Stations were affected. For each mela, planned and systematic arrangements were worked out in co-operation with the local public health authorities. particular attention was paid to the purification and the control of the water supply, provisions of sanitary convenience, general cleanliness and inoculations to the staff and pilgrims. For some of the important melas like Kumbha Mela at Allahabad and Sonapore Melas, First Aid posts were also set up.

Southern Railway

During the year under report the bed strength in Railway Hospitals on the Southern Railway was increased from 655 to 755. A total of 207 beds for T.B. cases were reserved in various Sanatoria in the area served by the Southern Railway for treatment of Railway employees and their family members suffering from Pulmonary Tuberculosis. Employees and family members suffering from T.B. were given financial assistance from Staff Benefit Fund while under treatment. Employees drawing upto Rs. 300 per month were dieted free when they were admitted as in-patients for treatment of T.B. At all eight Divisional Headquarters, Chest Clinics were established to detect early cases of T.B. and given them domiciliary treatment. 67 beds were provided in Railway Hospitals for treatment of T.B. cases.

Dental Clinics were established at all the eight Divisional Headquarters Hospitals.

Re-imbusement of medical expenses is being allowed for employees alone for mental treatment when undertaken at the instance of authorised Medical Attendant in recognised Institutions.

X-ray facilities were available at all Divisional Headquarters, Hospitals. Facilities for electro-cardiography were available at Perambur and Golden Rock Railway Hospitals.

There was no incidence of any infectious disease in an epidemic form during the year under review.

The number of Railway Stations involved by the fairs and festivals were 311. Adequate sanitary arrangements were ensured and a close liaison was maintained with the local Public Health Authorities to avoid out-break of any epidemic disease.

In all 175 Stations and Colonies had protected water supply.

All the District Medical Officers, Administrative Medical Officers, Assistant Surgeons and Sanitary Inspectors were vested with powers of Food Inspectors. In all a total of 560 food samples were examined out of which 199 were not found genuine. Number of the staff-examined was 4,604 out of which 5 were found infected. Sanitary Committees (34 District Sanitary Committees and 71 Sub-district Sanitary Committees) were functioning at most of the Stations. The Stations and Colonies were inspected periodically.

During the year under review condensed course of lectures consisting of 2 lectures in a week spread over 4 weeks in all was conducted at all the railway hospitals, dispensaries and also at the Traffic Training School at Trichinapally. In the First Aid a total of 2,232 persons were trained.

General health of the railway population was satisfactory. Diseases like Diarrhoea and Dysentery and Fevers accounted for a high rate of sickness among railway population.

Northern Railway

During the year under review one new health unit was opened at Simla for R.D.S.O. staff and one health unit at 'B' Block-Colony, Amritsar, which was under Loco Workshop, Amritsar, started functioning to be separate independent health units.

The railway employees and members of their families suffering from T.B. admitted to unrecognised sanatoria were given financial assistance to the extent of Rs. 100 per month per head.

No abnormal epidemic occurred on this railway during the year under review. Suitable medical and sanitary arrangements were made by the railway in scheduled meals. Adequate arrangements were also made for rendering First Aid to the injured. The supply of chlorinated drinking water fit for human consumption was ensured. Railway food and tea stalls were regularly inspected and precautions taken to protect food stuffs from fly nuisance and dust etc.

Under this railway there were 356 Stations and Colonies wherein water supply was open to infection. At certain important Stations where arrangements existed filtration was done through rapid filtration plant with chlorination.

A total of 1,372 food samples were examined by the Medical Officers and Sanitary Inspectors out of which 1,311 were found genuine. In all, 11,129 employees stationed at the food stalls refreshment rooms etc. were medically examined and out of them 60 were found infected. During the year 1960 "The Prevention of Food Adulteration Act, 1954 No. 37 of 1954" was in force.

The members of the Ambulance Divisions organised First Aid posts at various fairs and melas. During the year under review a total of 2,962 persons from the staff were trained in First Aid and 21 in Home Nursing.

As a part of health education and publicity a Health Exhibition Stall demonstrating T.B. Control, Malaria control, Nutrition etc. was held in the railway week at Moradabad. Five demonstrations and 5 lectures were arranged to explain the Malaria control.

Eastern Railway

During the year under report 8 hospitals, 68 health units with 94 emergency beds, 10 chest Clinics with 113 beds and 10 Dental Clinics existed for providing medical aid to the staff and their families of the Eastern Railway. In addition, 240 beds were reserved in the 9 recognised sanatoria for the treatment of T.B. amongst members of the railway employees and their families. A Chest Clinic with 16 beds was constructed at Asansol. At Dinapore the infectious diseases ward converted into chest clinic. Health units were constructed at Hazaribagh and Bhagalpur.

Skeleton Institutional Mid-wifery facilities were made available at Gomoh, Dehri-on-Sone, Sone-Nagar, Barwndih, Katrasgarh and Patherdih.

In addition to the facilities described above the following facilities also existed for the patients suffering from T.B. :—

- (i) Reimbursement of medical expenses incurred for treatment of T.B. against non-reserved beds ;
- (ii) Financial assistance to relieve the financial distress of T.B. patients on leave ;
- (iii) 113 beds in chest clinics for treatment of T.B. cases ; and
- (iv) Providing facilities for arranging sanction of unearned leave.

The position of supply of stores by Government Medical Stores Depot, Calcutta for the articles and drugs intended through the annual indent by the various health units and hospitals on the medical Stores Depot, Calcutta did not improve very much as a result of which arrangements had to be made for supply of bulk of articles by the railway itself.

No outbreak of infectious and epidemic diseases occurred during the year under report.

Systematic examination of food stuff in refreshment rooms food-stalls and other food-stuff sold by vendors at stations and colonies were conducted by the medical staff.

Usual arrangements for opening of First Aid Post during festivals and melas were made by posting Doctors, Dressers, Sanitary Inspectors, Conservancy Staff where necessary according to the requirement, water at places, where fairs and festivals were held, was chemically and bacteriologically examined before and during the melas.

Vaccinations against smallpox and inoculations against cholera amongst the travelling public were strictly enforced whenever advised by the State Government.

Supply of portable drinking water was arranged and the samples were regularly examined prior to and during the period of melas.

Regular inspection of food stuff sold to travelling public and samples were examined.

Sanitary Inspectors were specially deputed with necessary staff to look after sanitation.

341 stations and colonies were having protected water supply while in 204 stations and colonies the water supply was open to infection.

At all important stations facilities for filtration and chlorination of water existed.

During the year 861 samples of water supplied were collected from 390 stations and colonies for bacteriological and chemical examination.

In all 967 food samples were examined out of which 939 were found genuine. A total of 5,103 employees at food stalls, refreshment rooms and kitchen etc., were examined by the Railway Medical Officers and 61 were found infected.

The medical department was responsible for the maintenance of the sanitation at 49 important stations where either the Doctors or Sanitary Inspectors were posted. At other stations platforms, waiting rooms and passenger sheds etc., at important stations were looked after by the conservancy staff under the supervision of Sanitary Inspectors or Doctor-in-Charge of the Stations. These places were sprayed with insecticides.

During the year under review the First Aid activities of the divisions were satisfactory. Regular drills and parades were held at different divisions. Public duties were also rendered by 12 Brigade Divisions and one Nursing Division functioned with three district officers and 318 other ranks. A total of 41,339 staff were trained in the First Aid.

As a part of the health education and publicity "Health Exhibition Shows", children trains and talks, lectures, demonstrations, and Cinema shows were also arranged on T.B. control, Malaria Control, Nutrition and others.

During the year under report equal stress was laid on the preventive aspects of diseases as on their curative aspect as a result of which all the staff in the health advised the railway staff and their families in the measure to be taken for achieving positive health inclusive of planning their families.

South Eastern Railway

During the year under report, a new 20 bedded hospital was opened at Khurda Road under the charge of an Assistant Medical Officer. An X-ray plant was also provided in this new hospital. Thus there were 9 hospitals functioning on this railway and the total bed capacity of these hospitals rose from 424 in 1959 to 444 during 1960.

Employees whose pay did not exceed Rs. 180 per month as per authorised scales of pay were supplied with free diet. The poor and deserving employees were given financial assistance from the Staff Benefit Fund.

About 45 per cent of the medicines and drugs intended by the Railways were supplied by the Government Medical Stores, Calcutta. The balance was procured from the open market and supplied to various dispensaries on the Railway. Facilities existed for storing medicines and drugs at every Railway Dispensary.

Well equipped Laboratories were attached to all important hospitals for pathological examination of various specimens.

On an average about 8,098 patients attended daily to the Railway Hospitals and Dispensaries for consultations and treatment during the year under report. About 13,514 patients received in-door treatment in the hospitals on this Railway Administration each bed remaining occupied on an average for 366 days. Dysentery and Diarrhoea and other fevers constituted the highest percentages of cases.

The National Malaria Eradication Programme had been launched on this Railway from 1st April, 1959 and intensive D.D.T. spraying operation was carried out in 505 railway colonies of population less than 500 by the respective National Malaria Eradication Programme units of the States. The Railway Anti-Malaria Organisation carried out the malaria eradication measures in 70 railway colonies of population of 500 and above. There were 28 anti-malaria units working on this railway during the period under review. No suppressive treatment was undertaken.

As a measure of amenity to the travelling public 47 big stations, where Waiting Halls, Refreshment Rooms etc., were crowded and bothered by flies, mosquitoes, bed-bugs and other vermins were under regular insecticidal spray once in two months.

There were 34 stations on this Railway where melas and festivals were held every year. About 50 to 60 thousand people congregated at the festivals held at Puri during the period under review. Doctors were specially deputed to remain at these Stations and at other important Stations nearby to combat any emergency and to inoculate the pilgrims. The railway staff worked on such occasions in close co-operation with the Public Health staff of the State Government.

The scarcity of water was felt during summer months of the year at the majority of the wayside Stations. Arrangements were made for supply of water to staff from water tenders. Water was supplied at 478 Stations from shallow wells at 163 Stations from deep wells at 67 Stations from deep tube wells and at 28 Stations from tanks and 69 Stations filtered and chlorinated water supply.

All the Gazetted Officers and non-Gazetted staff of the Medical Department were vested with powers of Food Inspectors. Their activities were confined to Station premises only. During the year under review 569 samples were examined in this Railway Laboratory attached to Kharagpur Hospital out of which 302 samples were found rejected. There was no special Food Act or other regulations in force particularly in railway settlements of this Administration during the period under review.

The sanitary conditions at railway stations and colonies were on the whole far above the average when compared to standards of sanitation in similar colonies under Municipalities or State Government. To create incentive, prizes were awarded to the best kept stations. Arrangements were made to take over all the Station Committees by the Medical Department. The general health of the railway staff residing in the railway colonies was comparatively good. 7.7 per cent of the staff were provided with railway quarters.

There was no St. John Ambulance Brigade in this Railway Administration. Arrangements for forming a St. John Ambulance Division on this Railway were initiated during the year under report. However, arrangements were in existence for refreshing the knowledge in First Aid of those staff for whom this knowledge was obligatory. 8,012 staff were given training (including Refresher Courses) in First Aid. However, no home Nursing classes were held.

As a part of the health education programme, Children's show, Health Exhibitions, 3 cinema shows and 5 lectures on health were arranged for the inculcation of the better and active good habits among the people residing in the various railway colonies of this Railway Administration.

North East Frontier Railway

The North East Frontier Railway employed 69,197 employees and the Medical Department of this Railway gave medical care to all these employees and their dependents. The total number of persons given medical care came out to be 345,985 during the year under report.

There were six well-equipped District Hospitals and one sub-district Hospital with a total number of 266 beds. The construction work of the Maternity Wards at Alipurduar Junction Hospital, Dibrugarh Hospital, Lumding Hospital and Siliguri Hospital, providing 45 additional beds in them, was completed during the year under report. Dental clinics were also opened at the various Hospitals in this Railway Administration.

There were five 200 m.m. X-ray units on this railway, two Mobile X-ray units, three electro-Cardiograph machines and two photoelectric colorimeters.

The patients suffering from tuberculosis were given Rs. 945,561 as grant-in-aid to them. The total expenditure incurred from the Hospital Amenities Fund during the year under reference was Rs. 6,024.

Dysentery and Diarrhoea had a high incidence in the areas served by this railway. The number of attacks for the last three years had been as follows :

Years	Diarrhoea	Dysentery
1958	31,917	44,715
1959	36,375	45,803
1960	41,739	51,161

The incidence of the enteric fever and tuberculosis had been on increase on this railway. There had been no other communicable disease in an epidemic form during the year under report.

The water supply had been generally adequate at most of the stations. Arrangements for filtration and chlorination of water supply existed as follows:

Patterson filters with chloronomes—3.

Jemal filters without chloronomes—15.

Ring wells were regularly disinfected with bleaching powder.

The number of food samples examined was 1,052 out of which 801 were found to be genuine. The railway could fine the contractors in case of default as per the terms of contract entered between the Railway Administration and the contractors.

During the period of fairs and festivals that held on this Railway Administration from time to time, special arrangements by way of (a) posting additional conservancy staff to meet the additional passenger traffic and (b) supply of portable drinking water at the Stations affected by the meals, were arranged.

The overall sanitation on this railway was generally satisfactory. The general incidence of sickness amongst railway employees was low as compared to other humid areas of the country.

The formation of the St. John Ambulance Brigade had been on the way during the year under review. The number of trained in First Aid and Home Nursing was 1,267 and 5 respectively.

As a part of the health education programme one health exhibition, one children show and the various health weeks *viz.*, cleanliness week, Railway week and the vaccination week were observed.

A "SHRAMDAN" party was arranged at Gauhati on 2nd October, 1960 and it gave a special drive on cleanliness on the Station, approach road and later on in Khejur Bagan Colony. 12 talks on T.B. control and 4 on Malaria control were also arranged during the period under review. Pamphlets in connection with Family Planning works were circulated among the railway staff.

Western Railway

No medical and public health report was received from the Western Railway, Bombay.

Chittaranjan Locomotive Works

Full medical facilities were given to the employees and their family members residing at Chittaranjan. Necessary advice for Family Planning was given by the Assistant Surgeons of the K.G. Hospital, who were specially trained for the purpose. Contraceptives were sold at cost price at the Maternity and Child Welfare Centres. It was also decided to distribute limited contraceptive free of cost to the deserving persons. Sterilization operations were conducted in the K.G. Hospital. It was also decided to form a Committee with the Lady Doctor and other employees' wives from various colonies who would make the Family Planning Scheme a success one.

An electro-cardiogram had been purchased at a cost of Rs. 6,435 and installed at the K.G. Hospital. It was also proposed to provide 10 additional beds in the Female Ward. Employees and their family members suffering from tuberculosis were getting their treatment from K.G. Hospital and from the K.S. T.B. Hospital, Calcutta where 12 beds, besides 6 beds in the Isolation Ward of the K.G. Hospital, were reserved for the purpose. Financial assistance on the recommendation of the District Medical Officer were given to the employees and their dependent family members suffering from tuberculosis from the Staff Benefit Fund, financial assistance to T.B. patients was also given from the fund maintained by a committee set up to deal with socio-economic problem of T.B. patients.

The expectant mothers, who attended the Maternity and Child Welfare Centres, were examined and were given necessary treatment with proper advice.

There was no incidence of cholera and plague except 110 cases of Diphtheria during the year under report. Extensive vaccination and inoculations campaign against diphtheria and smallpox were carried out.

There was one sanitation committee functioning for the whole township of Chittaranjan Sanitation Department was transferred to the Medical Department under the supervision of the District Medical Officer.

The general health condition of the population was satisfactory. Cholera, smallpox and plague were unknown here. The other epidemic diseases were under control. All modern amenities viz., electrically, filtered water supply, water borne sewage disposal etc., were provided.

There was no St. John Ambulance Brigade or any such organisation functioning at Chittaranjan. 456 staff attended the First Aid Classes and 370 members of staff passed in the First Aid Examination. Anti-malaria activities continued to be sufficient during the year under report. The expenditure incurred on public health and medical services (combined) was higher during the year under report than in 1959.

HEALTH EDUCATION

Central Health Education Bureau

The Central Health Education Bureau has considerably expanded its sphere of activities during the period under review. The Training Section which started functioning with one Officer during the year under report has offered training to two batches of Family Planning Health Educators from Family Planning Orientation Training Team and Family Planning Touring Team. The Bureau in conjunction with the Family Planning Section, organised a Family Planning Education Seminar in March, 1960 in Delhi. The Seminar was attended by the Honorary Family Planning Education Leaders, State Family Planning Officers and State Health Educators. Besides, it took part in various training programmes and gave technical assistance to a number of official and voluntary organizations in the country. Orientation in health education was provided for the students of the Venereal Diseases Training Centre, Malaria Institute of India, College of Nursing, Lady Reading Health School, Orientation Training Centre, Najafgarh and National Fundamental Education Centre.

The Bureau in consultation with the concerned Section of the Directorate General of Health Services prepared proposals for the educational phase of the National Family Planning Programme, National Smallpox Eradication Campaign and National Malaria Eradication Programme.

The Bureau has made further progress in the school health education. The Section is helping to investigate the different aspects of introducing health and nutrition education in schools and teacher-training colleges and to develop suitable health education programme in schools.

The Bureau is assisting in the work of Sub-Committee set up by the Joint Committee of Ministries of Education and Health on School Health & Nutrition Education in preparing the syllabi on health for the school children of age groups 6-11, 11-14, 14-17 and also for the teacher-training institutions. Draft syllabi prepared on the basis of survey and discussions with the teachers are being tried out in selected schools of Delhi. A five-day workshop was organised for teachers from nine primary schools in Delhi in July to discuss various aspects of health education in schools.

The Bureau is actively associated with the School Health Committee set up by the Union Ministry of Health to assess the present standard of health and nutrition of school children and to suggest ways and means of improving them. Interim proposals of the Committee was submitted to the Ministry in August, 1960.

State Health Education Bureaux

All the States, except Jammu & Kashmir, have agreed to set up the Health Education Bureaux. Andhra Pradesh, Bihar, Madras, Mysore and Uttar Pradesh States have sanctioned the scheme. The remaining States have made provisions for the Bureaux in their 1960-61 budget. By the end of the Third Plan, it is expected that all the States in India will have fully developed Health Education Bureaux. Plans are under progress to train key personnel of the State Bureaux.

Media Division

The Media Division, among other things, aims at designing and producing effective 'type' media for use in the health education activities. Pre-testing and evaluation of health education material will be a major function of the Division. It also seeks to interpret the policies and programmes of the Union Ministry of Health and gain public support for them.

Health Education Material

Swasth Hind :

Swasth Hind, the monthly journal of the Bureau, will be completing its fourth year of publication in December 1960. During 1959, five special issues were devoted to Family Planning (January and December), Mental Health (March), Leprosy (May) and Children's Day (November). Six special numbers were brought out up to November 1960. Those related to Health Education, Malaria Eradication (World Health Day), Ayurveda, National Cleanliness Day, Children's Day and Venereal Diseases.

Steps were taken to bring out the Souvenir Number of the Journal on the occasion of the 14th World Health Assembly to be held in February 1961.

From April 1960, an annual subscription of Rs. 3 has been placed on the Journal. Upto the end of 1960 subscribers for the Journal were enrolled.

Swasth Hind has been widely appreciated by the people in various fields. Some of the comments show the popularity of the Journal. "A reference for reliable data (Nursing Journal of India)" "Impressed by the progress that is occurring in India" (Robert Yoho). "Most interesting, readable and informative publication" (Leona Baumgartner). "It (Family Planning Number) contains such wealth of information"—C. Ratnasingham. "The Health Ministry have done a great service to the cause of Ayurveda by bringing forth a number on Ayurveda"—B. V. Gokhale. "The articles therein" (Ayurveda Number) are interesting and informative. "The Government of India deserves all appreciation for this move"—Mallikarjan Rao.

Public Health Engineering Bulletin :

The Bureau started publishing "Public Health Engineering Bulletin", a quarterly Journal for the Central Public Health Engineering Organisation. The Bulletin aims to convey the scope and progress of the Union Ministry of Health, National Water Supply & Sanitation Programme, training facilities, research work, public health engineering organisational set-up in the States and role of international agencies like U.S.T.C.M., W.H.O. and Ford Foundation in promoting the programme. The first issue came out in August 1960 and the second issue was brought out in November, 1960.

Pamphlets and Brochures

A number of pamphlets, brochures and folders in Hindi and English on health subjects were designed, pre-tested and published. During 1960, 20 pamphlets, folders etc., were brought out. It includes Selected Papers on Health Education (Part I). The second part has been sent to the press.

The following pamphlets and folders have been printed during the period under review :

1. Compendium of the activities of the Ministry of Health during the Second Five Year Plan period.
2. Rice Bulletin.
3. Smallpox (English & Hindi).
4. Annual Report of the Central Research Institute, Kasauli.
5. Diphtheria (English & Hindi).
6. Selected Papers on Health Education (Part I).
7. School Health Education Questionnaire.
8. Malaria Eradication—What & Why.
9. Infantile Paralysis.

10. Whooping Cough.
11. National Cleanliness Day—Suggestions for Observance.
12. National Cleanliness Day—Better Living through Cleanliness (English & Hindi).
13. Eye Bank.
14. Vasectomy.
15. Swasth Hind Souvenir Number.
16. Infectious Hepatitis.
17. Leprosy is Curable.

Posters

The Bureau designed and got printed six posters, four for the Contributory Health Services Scheme Section and one for the Malaria Institute of India. The Contributory Health Services Scheme posters are :

CULTIVATE 'Q' HABIT.

WAIT FOR YOUR TURN.

EXAMINATION TAKES TIME—DO NOT HURRY.

COURTESY BEGETS COURTESY.

Poster on Malaria Eradication has the caption "ERADICATE MALARIA—TAKE PROPER TREATMENT". A poster was produced for the National Cleanliness Day. Translations in regional languages for the Family Planning posters were arranged by the Bureau.

From April, 1960, the pamphlets, folders, posters, etc. have been nominally priced to impress upon the people the value of the publications. The price is such as within the reach of the people.

CHEB News :

The first issue of 'CHEB NEWS', a quarterly was issued in September, 1960.

Film Production

The film "A Great Problem" on Family Planning sponsored by the Ministry of Health was produced by the Films Division of the Ministry of Information & Broadcasting. The following films are under production :

Cholera

Smallpox

National Malaria Eradication Programme

Prevention of Food Adulteration

Rural Sanitation

Family Planning.

The programme for 1961-62 includes the production of five films by Films Division and one by Children Films Society.

Film Library

The Bureau maintains a film library. The films are loaned to various organisations, official and non-official concerned with public health and social welfare work in the country. It also previews films, examines technical aspects of film scripts, conducts investigations and evaluates the results of film shows conducted among different sections of the population.

68 new films (670 copies) were added to the Film Library during 1960.

During the year 644 films and 11 film strips were loaned to 218 organisations within the country.

Film Shows :

The Bureau started a scheme to conduct film shows with a view to find out the effectiveness of films as a media for health education. Some of these shows were given at CHSS Dispensaries. People in the area were interviewed and their views on the films were collected after the show. During 1960, 87 such film shows were conducted in Delhi and New Delhi areas.

Film Preview :

The Bureau previewed films received from various organisations to assess the suitability for their purchase.

The Bureau also previews films to examine their educational aspects in relation to health topics.

Photo Library

The Photo Section of the Bureau takes and collects photographs on health topics and catalogues them. Additional equipment for photographic work like enlarger, copying equipment, etc., have been received during the year.

Health Education Library

The Health Education Library, started over two years ago, has made quite a good progress. Over a thousand books, pamphlets, reports and folders were added to the library during the year bringing the total number of books, etc., to over 3,500.

The Bureau catalogues the health education publications received from various sources like TCM, etc. and supplies information and other facilities to State Health Education Bureaux in this connection.

Methods Division

Training :

The Training Section has started functioning with the assistance of an Adviser from U.S.T.C.M. The Health Educator (Nursing) has been appointed and other staff of the Section are still under recruitment.

Two batches of Family Planning Health Education trainees from Orientation Training Team and Family Planning Touring Team received training in the Bureau for a period extending over three months. The training programme commenced with three trainees. The second batch of trainees (social workers) started work in July 1960. March 6 to 10, 1960 at Vigyan Bhavan, New Delhi, the Seminar was inaugurated by the Union Health Minister. Group discussions were held on various aspects of family planning education, duties of family planning education leaders, research needs, etc.

The Bureau arranged a four-day seminar and a five-day training programme for the family planning trainees of the Family Planning Section and a three-day seminar on Health Education (Family Planning) for health visitors and community organizers of the Urban Community Department of the Delhi Municipal Corporation.

The Bureau also conducted training programme on Health Education for the trainees of Malaria Eradication Programme, Venereal Diseases Control Programme, College of Nursing, Post-graduate students of Social and Preventive Medicines, All India Institute of Medical Sciences, National Institute of Fundamental Education, Orientation Training Centre, Najafgarh and Nursing Superintendents of the different States undergoing Refresher Course at Lady Hardinge Hospital.

10-Months' Certificate Course in Health Education :

The Assistant Director General (Health Education) visited All-India Institute of Hygiene and Public Health, Calcutta and its two field centres with the object of participating in the training programme of 10-months' certificate course in health education.

The Bureau is surveying the present training given now in nutrition to various health and community development personnel with a view to re-organize the training programmes to make it more practical and realistic. Towards this end the National Nutrition Advisory Committee has appointed the working group in which the Bureau is actively participating.

Since the training programme would be incomplete without having proper field and practical training, the Bureau is considering to select one of the rural health centres around Delhi as a Field Training Centre. The Bureau felt that Najafgarh Centre may be utilised for certain specific purposes and Narela Primary Health Centre may be developed for research and training of certain health education personnel.

The Bureau examined the curriculum in health education for the Public Health Nursing Course to be conducted at Lady Reading Health School. The curriculum was recast to suit the services to be provided by the Public Health Nurse. The Bureau has agreed to participate in this training programme in the first few years.

Research

The Research Wing started working with the joining of Deputy Assistant Director General (Research) and one Senior Investigator.

The Bureau prepared a questionnaire for the study of peoples' beliefs, attitudes, values and practices in regard to Trachoma.

Field Training for Research work was given to Family Planning Trainees. Short term studies were undertaken by the trainees in this connection.

The Bureau is preparing a study design for pre-testing the posters on smallpox.

Several meetings were held with the Health Consultant of the Ford Foundation with regard to the planning of Communication Research in the field of family planning. The design of the research project is now being jointly worked out with the Family Planning Directorate, Delhi University and Ford Foundation.

The questionnaires prepared by the Trachoma Pilot Project were examined and modified by the Bureau.

School Health Education

The Bureau has a School Health Education Section to help organising health education aspect of school health programme. The Section is assisted by a W.H.O. Adviser on School Health Education.

School Health Committee :

An 8-member School Health Committee under the chairmanship of Smt. Renuka Ray, M.P., has been set up by the Union Ministry of Health to assess the present standard of health and nutrition of school children and to suggest ways and means of improving them. The Director (CHEB), Deputy Assistant Director General (School Health Education) and School Health Education Adviser are the member secretary, member assistant secretary and member respectively. The Committee was inaugurated on April 8, 1960.

The Committee submitted an interim proposal to the Health Ministry so that immediate action may be taken to make adequate allocation in the Third Plan for School Health and Nutrition Programme.

Primary School Teachers' Workshop :

The Bureau organised a five-day workshop in July 1960, for teachers from nine primary schools in Delhi. Talks on various aspects of Health Education, nutrition, prevention and control of communicable diseases, etc., were given by experts in the field. A demonstration in the preparation of audio-visual aids was also given. An exhibition of Health Education Material for the benefit of the participants was also arranged by the Bureau.

This was in pursuance of the programme for trying out the draft syllabus on health for the school children of age-group of 6-11. The syllabus has been drawn up by the sub-committee of the Joint Committee on school health and nutrition education. The Joint Committee is constituted by the Union Ministries of Health and Education.

State Health Education Bureaux

The Ministry of Health sanctioned in February 1959, the scheme for starting of Health Education Bureaux in the various States in the country. Under the Scheme the Central Government will provide 50 per cent of the recurring expenditure and 100 per cent of the non-recurring expenditure. The Scheme aims to obtain active participation and support of people for public health programme and policies and encourage people to fully utilize the services provided by the Government and other agencies. U.S.T.C.M., W.H.O. and U.N.I.C.E.F. are to provide assistance to the participating States.

Health Education in Public Health Programmes

National Malaria Eradication Programme :

The Bureau examined the WHO draft guide for conducting health education in Malaria Eradication Programme. This was discussed with the Director, National Malaria Eradication Programme, Assistant Director General (Institutes) and WHO representatives. Suggestions were made to make the guide more useful and effective. The proposals are under consideration of the Ministry.

Smallpox Eradication Campaign :

Proposals for the educational aspects of smallpox eradication were prepared and sent to the Ministry. These proposals were considered at a meeting of the Smallpox Pilot Project Committee under the chairmanship of the Secretary, Ministry of Health. It was decided that the recruitment of the required personnel may be done on a phased basis.

The Bureau submitted proposals to the Delhi Municipal Corporation on Health Education, publicity and implementation of the smallpox eradication campaign.

Leprosy Control :

The Hind Kusht Nivaran Sangh has constituted a sub-committee on health education which had made certain suggestions for intensifying education in leprosy. Discussions were held with the Secretary-General of the Sangh and later with the Sub-Committee and proposals were drawn up for health education activities for the year 1960-61. The Bureau will provide technical assistance in this work.

Trachoma Pilot Project :

The staff of the Trachoma Pilot Project worked with the Bureau when details of health education aspect of the project were worked out. The Health Education and Publicity Officer spent a week in the Bureau discussing the details of the proposal.

Family Planning :

Detailed Schemes for the educational aspects of Family Planning Programme during the Third Plan were prepared and were considered by the Central Family Planning Board.

Health Education in Third Five Year Plan Period :

The health panel of the Planning Commission constituted a Committee to examine the Third Five Year Plan proposal for developing

health education in the country. Dr. G. S. Melkote, M.P. was appointed Chairman and the Assistant Director General (Health Education) as the Secretary. The Committee recommended the proposals made by the Bureau.

A meeting of the State Health Educators and the staff of the Central Health Education Bureau was held at the end of the Family Planning Seminar to discuss the projected State training programmes and State-Centre relationship and to consider various aspects of development of health education during the Third Five Year Plan.

World Health Day :

The theme of the World Health Day, 1960 was "Malaria Eradication—A World Challenge". The Bureau produced a special number of Swasth Hind, a folder entitled "Malaria Eradication—What & Why" explaining the Malaria Eradication Programme and a poster on the theme. These were widely distributed throughout the country.

National Cleanliness Day :

The Bureau printed and distributed two pamphlets and a poster and a special number of Swasth Hind. Besides background material on cleanliness, slogans for the day were also prepared.

Children's Day :

A Special Number of Swasth Hind with emphasis on the theme of the Day "The mal-adjusted child must be re-educated ; the orphan and the waif must be sheltered and succoured" and a folder explaining the theme were brought out in connection with the Children's Day in November 1959.

This year too, Swasth Hind published a special Children's Day number on the theme of the Day "The harmony of tomorrow's world depends on the mental and physical health of today's children".

World Health Assembly :

The Ministry of Health have decided to issue a Souvenir Number of Swasth Hind for the ensuing World Health Assembly to be held in February 1961 in Delhi. Besides this, the Ministry will also conduct a health exhibition in connection with the Assembly at the National Museum. The Bureau has undertaken the preparation of material and organizing the exhibition.

Exhibitions :

The Bureau arranged exhibition of health education material on Food and Nutrition at the inauguration of National Nutrition Advisory Committee in Vigyan Bhavan, New Delhi.

Exhibitions were also organised on the occasion of the Family Planning Education Seminar and Primary School Teachers' Workshop in Vigyan Bhavan, New Delhi.

Miscellaneous :

Proposals for setting up an Audiological centre in the Education Ministry were examined along with the Ear, Nose and Throat Specialist. Suggestions for setting up an appropriate Medical and Research Unit of the Centre are being worked out.

The Health Education Scheme prepared by the State Employees' Insurance Corporation on the basis of the proposal for the establishment of the Health Education Section for the State Employees' Insurance was examined in detail with the officers of the Corporation. Several suggestions were made to make the scheme workable.

The Bureau participated in the 7th meeting of the National Council for Rural Higher Education in March 1960.

The Bureau offered comments upon various scripts and other visual aids on family planning received from various sources with a view to make the script and other media more effective and useful.

All the States, except Jammu & Kashmir, have agreed to set-up the Health Education Bureaux. The States of Andhra Pradesh, Bihar, Madras, Mysore and Uttar Pradesh have sanctioned the scheme. The remaining States made provisions for the Bureaux in their 1960-61 budget. By the end of the Third Five Year Plan period, it is expected that all the States in India will have fully developed Health Education Bureaux. Plans were under progress to train key personnel of the States Bureaux.

The activities of the States in respect of health education are briefly summarised below :

Andhra Pradesh—The Government of India on the recommendations of the Central Council of Health have forwarded a Scheme for the establishment of a Health Education Bureau in the State. Accordingly, the Bureau has started functioning from 8th August, 1959 in the Directorate of Public Health. To carry out propaganda, one propaganda van with 16 m.m. sound projector and other audio-visual equipments to be operated by one Propaganda Assistant at the rate of one for each region were sanctioned. The Health Museum maintained under Health Education Bureau is an essential part of Health Education Programme. During the year under report, 19 colleges, 152 schools, 18 health organisations, 5 social organisations and 15 other institutions visited the Museum. The State Bureau of Health Education participated in the World Agricultural Fair, New Delhi during the year 1959-60 by putting up a Nutrition Stall in Andhra Pradesh Pavilion. During the "All India Industrial Exhibition" held at Hyderabad from 1-1-1960 to 10-2-1960, the Bureau had participated by erecting a Public Health Stall and made extensive propaganda on various aspects of health. Before starting the Smallpox Eradication Pilot Project programme in Greater Hyderabad the Cinema Car and Health Education Van went round the various localities during September and October 1960 imparting health education amongst the masses and conducting special cinema shows carrying out the spade work for preparing the people to get themselves vaccinated and to co-operate with the activity and for making the programme a success.

A batch of about 40 teachers drawn from Primary and Middle Schools of Hyderabad and Secunderabad were given training in health education for a period of one month during the month of September 1960 and certificates were awarded after the completion of training. A second batch of 30 teachers were trained at Warrangal. A batch of 8 Health Officers of School Health Clinics in the State

were given training in Nutrition, School Health Services and Health Education. A batch of 22 Primary School teachers of Shadnagar were trained in health education at Shadnagar for a period of 10 days.

Assam—During the year 1960 health education and propaganda work was done, as usual, by the permanent staff of the Civil Surgeons in the districts with the aid of films, magic lantern slides, booklets on health education, posters etc. For the autonomous hill areas, there was one Assistant Director for Health Education and there were two temporary Health Education Officers with staff for health education and propaganda work.

Gujarat—The health education activities were carried out by Departmental staff during their tours in the districts with a view to educate the villagers in the matters of health by means of film shows, posters and charts etc. There were two publicity and propaganda sections—one at Baroda and the other at Bhuj. Both units had been equipped with a sound projector films, models, charts etc. and the staff was carrying out health education activities in the rural areas of the districts by arranging health exhibitions, cinema and magic lantern shows. The practice adopted by the former Baroda State authorities of helping communities in arranging health exhibitions was continued and grant-in-aid was paid by Government restricted to an amount equal to that collected by the local body from Rs. 50 to Rs. 150 each case.

Kerala—The health propaganda work such as cinema shows, public lectures, publication of pamphlets etc., were carried out, as usual, by the Health Education Section of the Directorate.

Madhya Pradesh—To educate the people against common communicable diseases, the Health Education and Publicity Section arranged 736 shows of health education films in rural and tribal areas all over the State. Health Education articles were published in the "Gram Sevak". On World Health Day, 1960 a public meeting was held at Indore. The meeting was attended and addressed by eminent medical persons and members of the public. The subject of the discussion was 'Malaria Eradication—A World Challenge'. To mobilise public support and co-operation with regard to eradication of small-pox for the pilot project in Durg district, special publicity and propaganda campaign was undertaken in the pilot project area mentioned above through audio-visual publicity means, distribution of 50,000 numbers of pamphlets and displaying of 20,000 coloured wall posters on small-pox and through the local press. Health Exhibitions, which are also a very effective media for spreading health education message, are also arranged at District and State level on important occasions and congregations. In observance of the Family Planning Day, 1960; a public meeting and an exhibition was arranged at Indore and Gwalior.

Maharashtra—For educating the public in health and hygiene and making them health conscious, the Directorate has a van fitted with models posters films, films projectors, generators and gramophone records. The van tours the rural areas of the State visiting one district at a time and conducts cinema shows. The Sanitary Inspectors and Epidemic Medical Officers in each district also exhibit

magic lantern slides in villages in the course of their tours. In addition, health stalls are put up at agricultural and other exhibitions held in the State. The Sanitary Inspectors also advise the school children on personal cleanliness, hygiene and precaution to be taken against cholera, plague, smallpox and other communicable diseases. A Museum and a small Bureau of Health Education are being established at Nagpur, which will be further developed on lines of the one suggested by the Government of India.

Mysore—The need for effective working of a large number of health programme undertaken during the Second Five Year Plan period and the modern trends in the philosophy of health education resulted in the expansion of the Bureau. With the assistance of the Government of India the following Sections were sanctioned during the year covered by this report :—

(1) Administration Section—(a) Administrative Unit, (b) Stores and Distribution Unit; (2) Audio-Visual Section; (3) Field Study and Demonstration Centre. The various Sections and Units were beginning to work, as and when the staff recruited and equipment received. The activities of the Bureau were (a) Health Education, (b) Health Inspectors' Training.

Health Education :

The Bureau has had the routine publicity, through press, radio, printed material like hand-books, brochures, pamphlets, posters, etc. Film shows were a regular feature. Exhibitions were organised on special occasions like Dasara Exhibition, Congress Exhibition, Fairs and Festivals, etc. In addition, the Bureau had special publicity programme, in connection with (a) Small-pox Eradication Programme in Bijapur district (1960-61), (b) World Health Day—April 1960, (c) Children's Day, Leprosy Day and other days of National observation. The Bureau has extended its co-operation in the educational programme of other Sections, viz., the Bureaux, Districts and service centres.

Health Inspectors' Training :

The Government sanctioned two Health Inspectors' Training Centres in the State one at Bangalore and the other at Belgaum. 75 candidates were admitted at Bangalore and 50 at Belgaum making a total of 125.

Punjab—Special stress was laid on health education work through Primary Health Centres/Units and field sanitation and health staff during the year 1960 in the State. Exhibition played an important role in the field of education. State level exhibitions were organised on the occasions of : (1) Annual Red Cross Fair at Chandigarh, (2) Jormela at Shri Fatehgarh Sabib.

To enlighten the public on public health measures, films on public health subjects were exhibited on all important gatherings in the State with the co-operation and assistance of Public Relations Department. Adequate publicity was made by means of distribution of pamphlets, leaflets etc. on different subjects. For increasing the health and sanitation consciousness of the people and to ensure their

active participation in health programmes, the following measures were undertaken :—

1. Health Week was observed from 1st to 7th April, 1960 along with the celebration of the work on World Health Day—7th April ; and
2. Children's Day on 14th November, 1960 was celebrated throughout the State.

Rajasthan—Health exhibition films shows, popular talks, magic lantern shows, baby shows were arranged in almost all National Extension Service Blocks and Districts Headquarters. The films shows and magic lantern shows on health subject were arranged in the important fairs held at various places in Rajasthan State.

Uttar Pradesh—The Health Education Bureau further expanded its activities during the year 1960. These activities were carried out through the staff of this Bureau and by the personnel of the Medical and Public Health Department at the district and peripheral level throughout the State employing all possible methods of creating public awareness, promoting programmes and bringing in behavioural changes among people, viz., individual contacts, group discussions, seminars, conferences, cinema and magic lantern shows, cinema slides, exhibitions and also through lectures, demonstrations, distribution of written pictorial material and literatures, press publications, radio talks etc. This Bureau also took active part in holding pre-service and in-service training programmes in Public Health and Community Development programmes concerning health education, particularly for Social Workers in Family Planning, Sanitary Inspectors, Health Visitors, Medical Officers of Primary Health Centres and other auxiliary workers throughout the State during the year 1960. The pilot health education scheme started in the year 1955 continued during the year under report in five districts viz., Almora, Basti, Jhansi, Lucknow and Meerut. W.H.O. Health Education Advisor to the Government of Uttar Pradesh arrived in May, 1960 and the Senior Health Education Officer was appointed as his national counterpart. The Health Education Advisor is assisting in the expansion of the Health Education Bureau in the State. The Shri K. M. Munshi Shield was awarded to the Gram Sabha, Jawana, District Meerut, for doing best health education work during the year covered by this report.

Health Education Expansion Scheme sanctioned by the State Government in accordance with the recommendations of Central Council of Health and Government of India's subsidised plan, is in progress, and it is expected that object of educating the masses in health education, and fight against ignorance and diseases will be achieved by this Scheme.

Himachal Pradesh—The health education and health propaganda work is being carried out through the State Publicity Department, Health Education and other Public Health staff by individual aids, health exhibitions and group discussions etc. Big fairs of this Pradesh are also being attended to by the health education and other public health staff. Besides, lectures on different diseases were also delivered.

Laccadive Islands—There were no special schemes under this head. However, sufficient health propaganda was done by the field health staff regarding hygienic living and protection against epidemics.

Manipur—All health days *e.g.* WHO Day, Children Day, Red Cross Day, Family Planning Day, BCG Day etc., were observed in befitting manners. Holding of meetings, announcement in press and public address, equipment, distribution of leaflets, display of poster etc., suited to the occasion, were also done. Educative films on different subjects were also shown. Activities on health education and health propaganda were carried out through microphone, display of posters, speeches and leaflets throughout the Territory.

CHAPTER IV
MEDICAL RELIEF

1. Hospitals and Dispensaries.
2. Contributory Health Service Scheme.
3. Blood Transfusion Services.
4. X-Ray, Radium Treatment and Isotopes.
5. Mental Hospitals and Psychiatric Problem.

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HOSPITALS AND DISPENSARIES

The "Health Survey and Development Committee" set up by the Government of India under the chairmanship of Sir Joseph Bhore in the year 1946 had pointed out in its report that the medical relief facilities in the country were entirely inadequate both in quantity as well as in quality. Since independence, the country has made rapid strides in the field of medical and public health services and consequent upon it, there has been a steady increase in the number of hospitals and dispensaries particularly relating to the Government's institutions. To provide better and more curative and preventive services at the periphery in each district of the State in the country a net work of Primary Health Centres came into existence during the First Five Year Plan period. 2,695 Primary Health Centres were established during the fiscal year 1960-61 throughout the country so as to bring the medical relief services as close to the people as possible. The following table brings out the existing positions against that obtaining in 1946 and that for the year 1960 :—

Categories	1946		1960	
	Number	Ratio	Number	Ratio
Hospitals and Dispensaries	7,400	1:40,000	14,199	1:27,148
Beds	1,13,000	0.24:1,000	1,99,953	0.52:1,000
Doctors	47,524	1:6,300	88,000	1:4,850
Nurses	7,000	1:43,000	30,000	1:14,300
Primary Health Centres . . . . .	..	..	2,800	1:70,000

During the year under report the number of hospitals and dispensaries was 14,199 with beds 1,99,953 giving a ratio of 0.52:1,000.

The organisational set-up of the Contributory Health Services Scheme for Central Government employees in Delhi, which has been functioning under a constant demand attained a fair measure of stability and thus the services provided under the Scheme recorded a marked improvement. Impressed by the comprehensive medical facilities provided under the Contributory Health Services Scheme and its competence to cater to the medical needs of its beneficiaries satisfactorily, a number of semi-Government and autonomous bodies have been continuously pressing for their inclusion within the Scheme. Twenty such organisations were admitted into its fold during the year under review. The proposal for the extension of the Contributory Health Services Scheme to Central Government servants in Bombay, Calcutta and Madras in the Third Five Year Plan period is a fair indication of its successful working in the capital city.

Besides, the Employees' State Insurance Scheme provide medical and other benefits to the industrial employees and their families and has been steadily expanding and becoming popular.

The number of hospitals and dispensaries along with the bed capacity, functioning in the various States/Union Territories in the

country during the year 1960 is given in Table 36. A comprehensive descriptive account of medical relief measures available in different States is given below :—

Andhra Pradesh—During the year under report the most important achievement in the development of medical services was to make the Radium Institute and Cancer Hospital for the treatment of cancer cases. A cobalt plant was obtained from the Government of India under the Colombo Plan programme from the Atomic Energy Commission, Canada. With regard to other progress in the medical field it has been taken up in the plan programme already contemplated in the plans scheme of the Second Five Year Plan in all the subjects concerning to allopathic medical field. There were in all 216 Hospitals, 345 Dispensaries and the bed capacity available in these Institutions was 21,661 during the year under report.

Assam—During the year under review, institutional facilities for medical relief continued to be provided by the Assam State Government and also by some missionary organisations. The existing hospitals (58) and Dispensaries (543) provided medical relief both in the rural and urban areas in the State. The bed capacity in these institutions was to be of the order of 2,485 during the year under report. Epidemics were controlled as far as practicable. No hospital or dispensary was provincialised. In addition to these medical facilities 16 Ayurvedic subsidised dispensaries continued functioning during 1960, and the Homoeopathic and the Unani Systems of Medicine were not under the control of the State Health Department.

The Assam Medical College Hospital, Dibrugarh had up-to-date facilities for X-ray, radium and surgical treatment. The district headquarters hospitals in the plains were provided with X-ray equipment. In conclusion, the medical needs of the common people were freedom of want, freedom of diseases, better housing, intake of better nutritious food and the improvement of hygienic and sanitary conditions all around the State.

Bihar—No new dispensary could be established in the backward areas of the State during the fiscal year 1960-61, due to paucity of funds. Only extensions were given to the old temporary schemes for their maintenance.

There were 310 health centres functioning in the State in 310 blocks as on 31st March, 1960. Twenty-three health centres in 23 blocks were opened during April, 1960 and 23 in blocks in October 1960, where both curative and preventive works were done.

Gujarat—The year under report marked new constitutional change by which the State of Gujarat came into existence on account of bifurcation of the old Bombay State on 1st May, 1960. The population of the State was about 2.02 crores. During the period under report the State Medical Department had to face the task of realignment in the facilities and services, study in reasons for paucity in personnel, chalk out programmes by which in the short term and long term phases the various difficulties which came in the way of functioning of the Department.

This Department worked persistent over crowding in the Mental Hospitals and expedited completion of the new building which was

in progress. The main task was also to improve the existing overcrowding conditions in the hospital. New Mental Hospital at Jamnagar was opened in June, 1960 and the Mental Hospital at Baroda was taken up for necessary additions and alterations so as to accommodate about 100 additional patients. The programme for increase in number of beds at the Civil Hospital, Ahmedabad, Baroda, and Jamnagar was also taken up. Civil Hospitals at Godhra and Mehsana were recommended for expansion and the work was taken in hand. Some old Civil hospitals at Kaira, Broach, Amreli and Surat were considered for future remodelling. In all there were 114 hospitals and 582 dispensaries functioning in the State during the year under report. The total bed capacity available in these institutions was 3,206.

Jammu and Kashmir—There were 24 hospitals and 148 dispensaries functioning in this State during the year under report. The total number of beds available in these institutions was 2,829.

Kerala—There were 389 medical institutions functioning at the end of the year with a bed strength of 13,006. Moreover, there were 21 grant-in-aid institutions and 12 subsidised rural dispensaries in the State. Among the grant-in-aid institutions, there were 5 institutions providing treatment for leprosy patients.

48,035 major operations and 2,51,461 minor operations were conducted during the year under report as against 35,968 major operations and 1,71,069 minor operations during the preceeding year. 5,15,763 in-patients and 1,17,79,574 out-patients were treated during the year 1960. There were 11,000 deaths recorded among the in-patients treated in the various medical institutions during the year under report as against 10,159 deaths during the preceding year.

Madhya Pradesh—During the year under report, all the Districts and Tehsils Hospitals were well equipped with the modern facilities of treatment. However, the following major equipment, the cost of which shown against the institutions noted below were supplied during the year covered by this report :—

Institutions to which the equipment was supplied	Cost (in Rs.)
1. 100 M.A. X-ray Machine for Civil Hospital, Jaora, District Ratlam	35,000
2. Ambulance for Sultania Zanana Hospital, Bhopal	24,751
3. Ambulance for Health Centre, Natwara Medical College, Jabalpur	21,394

Two dispensaries viz., one at Narioly (Sagar district) and the other at Barheta (Narsinghpur district) were provincialised during the year under report. Medical relief was also given to the displaced T.B. patients from West Pakistan to the extent of Rs. 1,632 during the fiscal year 1960-61.

Madras—With the implementation of the development schemes (plan and non-plan) there has been an expansion programme of medical relief in the State of Madras. 8,61,496 in-patients and 2,74,09,908 out-patients were treated during the year under report while in the year 1959 the statistics was of the order of 9,57,575 for in-patients and 2,39,80,981 for the out-patients. There were 902 medical institutions functioning during 1960 as in comparison with 871

during the preceding year. The bed capacity was 22,188 during 1960 while the same was 21,211 during the year 1959. The number of doctors employed were 2,090 during the year under report in comparison with 1,942 in the preceding year. The number of nurses employed was 2,582 during 1960 while the same was 2,392 in the year 1959.

Maharashtra—In whole of Maharashtra State there were about 25,068 beds in the year 1960 including Government and non-Government hospitals and dispensaries. 5,97,042 in-patients and 1,26,44,656 out-patients were treated during the year under report.

In G.T. Hospital, Bombay a library was started for the in-door patients to give reading facilities to the ward patients. This library is fully equipped with magazines and periodicals. Ambulance service was provided at St. Georges Hospital to bring patients when summoned on payment of required charges as per rule. 5 beds were reserved for the industrial workers under the Employees' State Insurance Scheme to which workers were admitted. Moreover, Primary Health Centres of Government of India pattern are being established in Community Development on Stage-I Block covering a population of 66,000. The target is to have one Primary Health Centre with 3 Sub-centres for the block and where the population is more than 66,000 the number of Primary Health Centres and Sub-centres are to be increased proportionately. The general aims of the health programme is to expand existing health services, to bring them increasingly within the reach of all people and to promote a progressive improvement in the level of the national health. There were 63 Primary Health Centres during the year 1960 in comparison with 42 Primary Health Centres functioned in the preceding year, making the progressive total to 156 Primary Health Centres in the State.

Mysore—During the year under report, there were 186 Hospitals and 732 Dispensaries functioning in the State of Mysore in comparison with 178 Hospitals and 707 Dispensaries during the preceding year. Also, 9 medical institutions i.e., one College Hospital at Hubli and 8 Dispensaries were opened during the year under review. The population served by each medical institution was 25,650.4 and the average area served by each institution was 81.5 square miles. The categories of Hospitals and Dispensaries during the year 1960 were as follows:—

Categories	Hospitals		Dispensaries		Total	
	1960	1959	1960	1959	1960	1959
1. General . .	135	127	665	645	800	772
2. Women . .	51	51	67	62	118	113
3. Urban . .	89	84	84	73	173	157
4. Rural . .	97	94	648	634	745	728
5. Government .	108	110	180	171	288	281
6. Government aided	8	13	11	4	19	17
7. Local bodies	39	39	531	524	570	563
8. Others .	31	16	10	8	41	24

The important feature of the year under report is that Ambulance Vans were supplied to the Government Hospital, Udipi and to the Maternity Hospital, Malleswaram, Bangalore City.

Ten doctors were deputed abroad and 35 in India for higher studies during the year under report.

Special equipments, furniture, books etc., worth Rs. 40 lakhs nearly required for Hospitals and Medical and Dental Colleges, were sanctioned by the Government during the fiscal year 1960-61. The subsidised medical practitioners' services functioned satisfactorily throughout the State and there were nearly 48 allopathic subsidised medical practitioners centres in the State of Mysore during the year 1960. All these were allotted 4 to 5 villages with a radius of 5 miles from their centres, which they visited periodically. As regards the expenditure in the case of these centres, 4/5th of the expenditure is borne by the Government and 1/5th by the District Local Boards functioning in the State.

Orissa—In the year 1960 the number of in-door and out-door patients treated were 1,61,608 and 70,48,259 respectively while in the preceding year 1,44,251 in-patients and 55,44,905 out-patients were treated. The number of Primary Health Centres functioning in Orissa State during 1960 was 79 in comparison with 72 during the year 1959. The Maternity and Child Welfare Centres were 65 during the year under report while the same number was in the year 1959.

The Primary Health Centre, opened at Bhusandpur in Puri district to render medical relief to displaced persons, continued to function during the year 1960. Four subsidised dispensaries also continued to function during the year under report.

Punjab—The hospitals and dispensaries in the State continued to function satisfactorily during the year under report. As far as fund permitted, improvements were effected in these institutions by providing additional equipment and staff etc., six dispensaries were opened by the District Boards from their own funds during the year 1960-61. Four dispensaries were opened by the Government.

The condition of buildings of the Hospitals/Dispensaries maintained by Government with a few exceptions continued to remain generally satisfactory during the year under report. There were in all 167 hospitals, 510 dispensaries and 151 Primary Health Centres during the year under report as against 167 hospitals, 498 dispensaries and 145 primary health centres in the preceding year.

The total number of out-patients treated in hospitals and dispensaries during the year covered by this report was 88,65,875 of whom 30,79,401 were men, 28,32,470 women and 29,54,004 children as compared with 95,32,006 (33,94,706 men, 30,25,601 women and 31,11,699 children) during the previous year. The total number of in-patients treated in the year 1960 was 2,62,292 (1,01,817 men, 1,14,136 women and 46,339 children) as compared with 2,55,806 (1,00,113 men, 1,12,923 women and 42,770 children) in the preceding year.

The bed capacity in the year 1960 was 10,984 (5,989 males and 4,995 females) as compared to 10,154 (5,630 males and 4,524 females) in the preceding year.

Rajasthan—There were 769 medical institutions functioning in the entire State of Rajasthan satisfactorily and regularly during the year under report, which included 149 Primary Health Centres. The total bed capacity in the entire Rajasthan State was 9,851 in the year 1960. 26 new hospitals, dispensaries and clinics were opened. 18 hospitals and dispensaries were taken over during the year under report. 27 institutions were converted into Primary Health Centres and 2 dispensaries into hospitals during the year 1960.

The daily average of in-door and out-door patients treated in all the medical institutions was 7,199 and 65,355 respectively in the year 1960 as against 6,514 and 60,775 respectively during the year 1959.

The Tuberculosis Hospital, Udaipur district was upgraded with 200 beds on provincial basis. It is a most modern and well equipped sanatorium with 200 beds. The equipment and supply position of the institutions was satisfactory during the year under report.

West Bengal—During the year under report, one 320 bedded general ward was opened at the Infectious Diseases Hospital, Beliaghata for the treatment of general patients in addition to 280 infectious diseases beds already opened. The construction work of the hospitals mentioned below was in progress during the year under report :—

500-bedded Hospital at Kalyani.

360-bedded Ward at the Nilratan Sircar Hospital, Calcutta.

100-bedded Hospital at Uttarpara.

The opening of the 200 beds and 100 beds were also sanctioned by the Government at the R. G. Kar Hospital and M. R. Bangur Hospital, Tollygung respectively. There were in all 15 District Hospitals and 26 Subdivisional Hospitals in the State during 1960. Improvement and expansion of hospitals was taken up by the Government by sanctioning the construction of the various new hospitals in the State during the year under report.

With a view to providing a minimum medical and public health cover in the entire State of West Bengal within a reasonable period and also to ensure rational distribution of such aid having particular regard to the backward areas, Government have embarked upon a policy of establishing one Primary Health Centre and 2 to 3 Subsidiary Health Centres in each Development Block. The Primary Health Centres have usually 10 beds and the Subsidiary Health Centres have 2 non-dieted emergency maternity beds apart from the out-patient Department facilities. Each Primary Health Centre has also a small laboratory for ordinary examination of clinical materials. Each Primary Health Centre is manned by 2 Medical Officers and each Subsidiary Health Centre by 1 Medical Officer. The important preventive activities extended by Health Centres are as follows :—

1. School health ;
2. Recording of vital events ;
3. Prevention and control of communicable diseases ;
4. Improvement of environmental sanitation ;
5. Maternity and Child Health and Family Planning Work ;
6. Health education ; and
7. Immunisation against Smallpox, Cholera, Typhoid.

There were 482 Primary Health Centres functioning during 1960 in comparison with 473 in the preceding year. The bed strength of the State of West Bengal was 27,611 during the year 1960 while the same was 26,749 in the year 1959. Equipment and medicines were supplied satisfactorily to all the Institutions functioned during the year under report. The public health services of District Boards were provincialised along with the 4 Primary Health Laboratories and 3 of which were already upgraded into District Diagnostic and Primary Health Laboratories. 8 such Laboratories have been established so far in the State of West Bengal.

Andaman and Nicobar Islands—This Union Territory is a group of scattered Islands and has got a population of approximately 60,000. The Medical and Public Health Administration in these Islands is integrated under the direct control of the Senior Medical Officer.

Seven hospitals and 33 dispensaries were functioning during the year under report. In addition to these hospitals and dispensaries, one mobile dispensary was in commission to provide medical relief to the people of South Andamans. There were neither any private medical institutions nor private medical practitioners in this Territory during the year under report. One hospital at Diglipur in North Andaman and 4 new dispensaries were opened in the colonisation areas of this Territory. The supply of medicines, equipment etc., was satisfactory on the whole. There were no recognised practitioners for Homoeopathy and Indigenous System of Medicine working in this Territory.

Delhi—During the year under report, 5,98,619 cases in the Out-patient Department and 33,171 cases in the Indoor Department were treated during the year 1960 as compared with 5,84,388 (out-patients) and 29,908 (in-patients) in the year 1959. 3,657 major operations (including 180 cardiac and vascular operations) and 11,066 minor operations were performed. 6,609 emergencies calls were attended to by the Irwin Hospital during the year under report. The Ayurvedic Unani Tibbia College, New Delhi treated 15,696 and 12,031 in-door patients in the years 1959-60 and 1960-61 respectively. The number of out-door patients treated in the years 1959-60 and 1960-61 was 1,22,535 and 1,84,691 respectively.

Provision of public medical relief in the Union Territory of Delhi is to a large extent is the responsibility of the Municipal Corporation of Delhi. For this purpose there were 19 Hospitals/Health Centres and 44 Dispensaries with 8 beds of modern system of medicines. The number of in-door beds increased from 1,556 in 1959 to 1,605 in 1960. During the year under report, 39,306 in-door patients (as against 38,301 in 1959) were treated and 49,41,126 out-patients (as against 43,79,078 in 1959) of which 20,53,366 (as against 18,16,394 in 1959) were new cases. There were also hospitals and dispensaries functioning by private institutions which rendered useful services towards medical relief in Delhi. Most of these institutions received grant-in-aid from the Municipal Corporation of Delhi. Rs. 2,81,905.19 nP. were borne as expenditure during 1960 as compared to Rs. 2,34,021.25 nP. in 1959 by the Municipal Corporation of Delhi on the various institutions functioned in this Territory during the year under report.

Himachal Pradesh—During the year under report about 1,000 Tibetan refugees migrated to this Pradesh. Necessary camps were set-up for the Tibetan refugees in Mahasu and Chamba districts at

a very short notice to look after the sanitation and other public health arrangements. Sanitary Inspectors and other vaccination staff were posted to the camps. All treatment facilities were provided. 25,23,795 out-patients and 3,11,593 in-patients were treated during the year 1960. The major and minor operations performed were 3,653 and 19,686 respectively during the year under report.

Laccadive Islands—There were 7 Government medical institutions in this Union Territory during the year under report. The dispensary at Minicoy Island was converted into a hospital with 20 beds for in-patient treatment. All the dispensaries and the hospitals were provided with adequate medicines and equipments. There were no private or subsidised medical practitioners in this Union Territory during the year under review.

Manipur—3,576 in-door and 1,11,688 out-door patients were treated at the hospitals and dispensaries in the year 1960 as against 2,125 in-door and 1,03,540 out-door patients in the preceding year. 337 anti-rabic patients were treated in this Territory.

Establishment of 5 dispensaries in tribal areas was sanctioned during 1960. A sum of Rs. 11,750 was spent for the construction of 5 dispensaries in the hilly areas.

Under the Scheduled Caste Welfare Scheme a sum of Rs. 1,500 was utilised for free distribution of medicines at 5 centres. A sum of Rs. 25,000 being the cash grant, 15 bundles of C.I. sheets, medicines, equipment and furniture were made available to 5 villages in tribal areas of this Union Territory.

Pondicherry—For the purpose of clinical training to the medical students of Pondicherry Medical College, the General Hospital, Pondicherry was remodelled and brought to a new set-up. This work was started in 1959 and actually materialised in 1960 and has also to continue in 1961. Blood Bank started functioning from 12th April, 1960. The Government authorised the payment of Rs. 7 to each donor of blood from 20th June, 1960.

Tripura—During the year under report 51,273 in-door and 11,20,247 out-door patients were treated as against 38,773 in-door and 7,85,775 out-door patients in the year 1959. A 20 bedded hospital was also opened at Belonia during the year under report. The number of Primary Health Centres was 6 during 1960. At the Homoeopathic and Ayurvedic Dispensaries, the number of out-door patients treated were 2,11,736 and 45,677 respectively as against 1,83,716 and 20,082 in the year 1959.

CONTRIBUTORY HEALTH SERVICE SCHEME

In the sixth year of its life, the organizational set up of Contributory Health Service Scheme attained a fair measure of stabilisation and the services provided under the Scheme recorded a marked improvement. Four new dispensaries were opened during the year 1960 bringing their total to 38. Twenty more semi-Government Organizations and autonomous bodies were included in its fold during the year under review.

The number of patients treated at the Contributory Health Service Dispensaries was 47,43,968 as against 40,75,479 during the previous year showing that more people had availed of the facilities of

medical treatment under the Contributory Health Service Scheme. The number of beneficiaries served by the Contributory Health Service Scheme during the year was 4,49,270. The inclusion of 20 semi-Government institutions and autonomous bodies into the Contributory Health Service Scheme is an indication of its popularity. Table 37 gives an indication of the all round progress made by the Contributory Health Service Scheme since its inception upto the end of the year under report.

Domiciliary Services :

Apart from the services available during the normal working hours of the dispensaries, there are arrangements for the doctors to be on duty or on call throughout the twenty-four hours including Sundays and holidays. The number of domiciliary visits paid by the Medical Officers employed under the C.H.S. Scheme are given in Table 38.

62,377 visits were made by the Medical Officers at the residences of the patients in 1960 as against 54,006 in 1959 and 47,733 in 1958. On an average a Medical Officer paid 419 visits during the year under report i.e., 35 visits a month as against 34 during the preceding year. Monthly average of home visits by doctors with vehicles was 41 against 30 by those not having any vehicle.

Specialist Services :

Specialist staff consisting of Surgical and Medical Consultants, Obstetrician and Gynaecologists, Psychiatrists, specialists in diseases of children, skin, eye, ear, nose and throat and Dentists are provided for the benefit of the members of the Scheme. During the year under report, 2,40,722 cases were seen by the various specialists as per Table 39. The average weekly attendance of cases seen by the specialists was 926 in the Eye Departments, 573 in Surgical Section, 272 in Lady Staff Surgeons Departments, 862 in the Medical, 647 in the Dental, 706 in the E.N.T., 183 in the Children's, 74 in Psychiatrists' and 473 in the Skin Sections.

During the year under report, sickness incidence was 3,457 per 1,000 beneficiaries as against 2,837 during 1959. In other words, it is observed that on an average a beneficiary resorts to the service under the Scheme a little more than 3 times in a year. Table 40 shows the incidence of common and important diseases during the year 1960.

Expenditure and contributions :

The figures of expenditure (in Rs.) on the Scheme and the contributions realised are as given below:—

Description	1957-58	1958-59	1959-60	1960-61
(i) Expenditure	40,74,466	50,20,855	63,04,559	64,99,763
(ii) Receipts	23,46,444	25,93,000	29,36,439	29,26,168

Four new dispensaries were opened in the following areas :—

1. Sarojini Nagar Market.
2. Srinivaspuri.
3. Moti Nagar.
4. Patel Nagar II.

The steady process of reorganization and expansion of the Scheme and the employment of more doctors has brought down the work load per doctor per day from 143 cases in 1956 to 120 cases in 1960.

Two following special studies in connection with the working of C.H.S. Scheme were undertaken during 1960 :—

(i) *Ascertaining the period of waiting of the patients in the C.H.S. Dispensaries :*

With a view to (a) ascertaining the time actually required to be spent by the patients in the dispensaries for consulting the Medical Officer and collecting the prescribed medicines and (b) Collecting material to remove bottlenecks and to modify the system of working, a special survey was conducted in 12 selected dispensaries from 1st to 6th February, 1960.

The study revealed that 70 per cent of the patients were disposed of within 30 minutes of their coming to the dispensaries and only 7 per cent of them had to spend 50 minutes or more for being examined by the doctors and collecting the prescribed medicines. The study was repeated in the same dispensaries from 10th to 15th October, 1960 for assessing the seasonal variations. Since a great majority of patients are examined and given treatment in less than half an hour of their arrival in the dispensary, the position is not regarded as unsatisfactory.

(ii) *Gallup Poll for assessing the views of the C.H.S. beneficiaries :*

An opinion survey (Gallup Poll) was conducted among 10,000 Government servants, selected at random from a cross-section of the various categories of the staff and Members of Parliament for assessing their views regarding the working of the Contributory Health Service Scheme. The replies received have been analysed and a report was prepared.

(iii) *Mass X-ray of Government servants :*

With a view to discovering any latent symptoms of tuberculosis etc., among the Government servants, a programme of mass X-ray for Government servants has been started and is being carried out vigorously. 39,000 Government servants have been X-rayed upto the 31st December, 1960.

(iv) *National Cleanliness Day :*

The Medical Officers and staff posted in the various Dispensaries/Family Planning Centres actively participated in the programme organised in connection with the 'National Cleanliness Day' observed throughout the country on the 2nd October, 1960, a new programme started from the year, 1960.

Extension of C.H.S. Scheme to the Employees of Semi-Government and Autonomous Bodies.

Impressed by the large measure of success achieved by the C.H.S. Scheme in providing comprehensive medical coverage to its beneficiaries, the semi-Government organisations and autonomous bodies functioning in Delhi/New Delhi have since long been pressing for the extension of C.H.S. Scheme to cover their employees. Their requests are, however, considered keeping in view of the need to maintain the required standard of service to the beneficiaries and the competency of the organisation to meet further commitments. During the year under report, twenty such organisations were admitted into the Scheme in addition to those already included in its fold.

New C.H.S. Identity Cards :

New C.H.S. Identity Cards have been introduced with effect from 1st May, 1960, the main feature of which is that the authority to issue the Identity Cards has been decentralised and the various administrative Ministries/Officers are now authorised to issue the cards to their employees. This has been done to avoid inconvenience to the Government servants in the issue of Identity Cards or in getting any additions or alterations made in the card.

Hospitalisation of T.B. and other cases :

The number of cases hospitalised during the year 1960 was as under :—

(i) Tuberculosis	304
(ii) Mental Cases	5
(iii) Cancer	4
(iv) Others (including maternity)	13,333

Accommodation for the C.H.S. Dispensaries :

The Contributory Health Service Scheme having been placed on permanent footing, it has been decided to house the C.H.S. Dispensaries in buildings of their own. A beginning in this direction has been made with the acquisition of suitable sites in the following localities :—

1. Lajpat Nagar.
2. Lakshmibai Nagar.
3. Srinivaspuri.
4. Pandara Road.

Actual construction work has also commenced on the sites in Lakshmibai Nagar and Pandara Road during 1960.

The next phase of the programme of construction of Dispensary buildings provides for buildings in Lodi Road, Moti Bagh I and II, Chandni Chowk and Kasturba Nagar areas.

Major additions and alterations to the premises of twelve of the dispensaries were completed during 1960 to render them suitable for the requirements of the Dispensaries.

Working of the Family Planning Centres :

The number of Family Planning Centres opened under the C.H.S. Scheme was raised from nine to ten during the year 1960. A larger number of people attended these Centres for seeking advice on family planning. Members of the general public, who are not C.H.S. beneficiaries, can also now seek advice on family planning from these Centres and also avail of the facilities of obtaining contraceptives, free or at subsidised rates from these Centres. Figures regarding attendance at the Clinics and the value of contraceptives sold during the year are as under :—

1. Persons contacted	1,23,161
2. Total attendance at the Clinics	22,383
3. No. of cases advised	4,527
4. Home Visits :	
(a) New contacts	25,558
(b) Follow-ups	14,139
5. Cases referred for sterilisation	411
6. Value of contraceptives given out	Rs. 20,710·6 nP.

As in the previous years, "Children's Day" and "Family Planning Day" were celebrated on 14th November, 1960 and 18th December, 1960 respectively at five of the C.H.S. Family Planning Clinics with great success.

Conclusion :

The C.H.S. Scheme, judged from its working during 1960, can be said to be steadily forging ahead towards the object for which it was started. The demand for its extension to Central Government servants stationed in other big cities like Bombay, Calcutta, Madras in the Third Five Year Plan is a fair indication of its successful working.

BLOOD TRANSFUSION SERVICES

Blood transfusion services continued to make steady progress during the year 1960. New Centres were set-up and the activities in existing centres intensified. In many States all modern methods of propaganda and publicity were done to popularise Blood Banks to public and to enlist voluntary donors to enhance the cult of blood donation to meet the ever increasing demand of blood. The lack of Blood Banks in a particular State does not indicate lack of blood transfusion services. Many Government hospitals were provided with blood transfusion facilities although no Blood Bank existed in that State. Training schemes for imparting lessons in blood transfusions and its therapeutic aspects was available in the country during the year 1960.

Table 41 indicates the State-wise distribution of Blood Banks etc., existed in 1960. The activities of the Blood Banks in different States during the year under review were as follows :

Andhra Pradesh—For the purpose of blood transfusion a Central Blood Bank already existing in the Osmania General Hospital, Hyderabad was developed into that of Teaching Institution for the

training in the Blood Transfusion to the Nurses and the Doctors. Blood extracted from the donors was supplied to the different institutions of the city/State of Hyderabad. There was a proposal to prepare blood plasma in the above Central Blood Bank during 1960. Besides this, a good number of medical institutions were provided with Blood Banks with required instruments and equipments for extracting blood and its transfusion to the patients.

Assam—The Blood Bank was opened in 1951 and the volume of blood collected in that year was 45 litres which steadily increased to 214.8 litres in 1960. Blood transfusion is particularly done in the Welsh Mission Hospital in Shillong and at the Assam Medical College, Dibrugarh.

Bihar—Two Blood Banks were functioning in the State during 1960. The banks meet the demands of the hospitals and public emergency demands. The donors are mostly relatives of the patients but panels were also maintained of volunteers and paid donors. Medical and para-medical personnel are trained and facilities afforded to post-graduate research workers.

Gujarat—Three Blood Banks were existing in the year 1960 in the State at the hospitals *viz.*, Civil Hospital, Ahmedabad, S.S.G. Hospital, Baroda and Irwin Group of Hospital, Jamnagar. These Blood Banks had section of Pathology Department under the supervision of a Blood Transfusion Officer. More and more voluntary donors and relatives of the patients are coming forward to donate blood.

Jammu and Kashmir—Two Blood Banks in S.M.H.S. Hospital, Srinagar and S.M.G.S. Hospital, Jammu were functioning during 1960. Due to the number of difficulties *viz.*, staff position, lack of donors etc., these Blood Bank Units were mostly functioning as a Blood Bank Units were mostly functioning as a Blood Transfusion Units during the year under review.

Kerala—A new Blood Bank each at the District Hospital, Cannanore and General Hospital, Trivandrum started functioning during the year 1960. Thus the number of Blood Banks functioned in the State were 7 during the report under review.

Madhya Pradesh—Blood Transfusion services existed at the following hospitals :—

1. J.A. Hospital, Gwalior,
2. M.Y. Hospital, Indore,
3. Hamidia Hospital, Bhopal,
4. Sultania Zanana Hospital, Bhopal,
5. Victoria Hospital, Jabalpur, and
6. G.M. Hospital, Rewa.

Madras—The Blood Bank in Madras State was first inaugurated in the year 1941 at King Institute, Guindy, so that human plasma could be made available for treatment of casualties. The Madras State Blood Banks were organised in all District Headquarters Hospitals by the end of Second Plan. Steps are being taken to organise Blood Banks at large Taluk Headquarters Hospitals. Propaganda was carried out by State Blood Banks with the help of the Red Cross Society.

Maharashtra—The State of Maharashtra had 22 Blood Banks located mainly in the cities of Bombay, Poona, Nagpur and Sholapur. The Blood Bank of K.E.M. Hospital, Bombay began in 1942 during the period of Second World War on a small scale.

Mysore—In Mysore State there were 5 Blood Banks viz., (1) Victoria Hospital, Bangalore, (2) Bowring and Lady Curzon Hospital, Bangalore, (3) K.M.G. Hospital, Hubli, (4) K.R. Hospital, Mysore and (5) Government Wenlock Hospital, Mangalore. In addition to these the Blood Transfusion work was also taken up in some of the other medical institutions in the State of Mysore during the year 1960, though there were no scientific Blood Banks in those Institutions.

Orissa—The blood transfusion service was being done at the S.C.B. Medical College, Hospital, Cuttack. The Orissa Red Cross Blood Bank was opened in 1959 for collection of blood from paid donors.

Punjab—There were 4 Blood Banks viz., (1) V.J. Blood Bank, V.J. Hospital, and Medical College, Amritsar, (2) Christian Medical College, Ludhiana, (3) Red Cross Blood Bank, Dayanand Hospital, Ludhiana and (4) Red Cross Blood Transfusion Service, V.M. Hospital, Jullundur functioning in the State during the year under report. As demand of blood increased in this State it was felt that a non-official body be organised to manage its affairs. The V.J. Blood Bank Society thus came into existence in 1949 and was registered in 1956-57 under the Act XXI of 1860. The Blood Bank Society charges Rs. 25 per unit from those whose income is less than Rs. 150 p.m. and Rs. 50 per unit from those whose income is above Rs. 150 p.m. The Society pays Rs. 10 per unit to each professional donor but awards a silver medal to a voluntary donor after three donations. 52 silver medals have so far been awarded since 1953. The Local Municipal Committee renders an aid of Rs. 7,200 while the Punjab Red Cross Branch makes an annual contribution of Rs. 600 towards the Society.

Rajasthan—During the year 1960, Blood Banks were provided in 5 hospitals only. None of these Blood Banks had the facilities for preparation of plasma. Blood transfusion services were available in all the Grade I and Grade II hospitals of the State by collection of blood from donors.

West Bengal—There was already a centralised Blood Bank in Calcutta which has been developed during the past years. The work of the centralised Blood Bank had increased to a great extent with the organisation of Blood Banks in the Districts. The Blood Banks of the following districts were functioning during 1960 :—

1. Bankura Sadar Hospital.
2. Midnapore Sadar Hospital.
3. Rao J.N. Roy Hospital, Murshidabad.
4. Jalpaiguri Sadar Hospital.
5. B.C. Hospital, Burdwan.

Attempts have been made to train up suitable personnel as quickly as possible for organisation of Blood Bank in other districts.

Andaman and Nicobar Islands—No blood bank facilities were available in this Union Territory. However, blood is collected from donors at Civil Hospital, Port Blair at the time of transfusion to the patients. 14 donors were drawn during the year 1960.

Delhi—In the Irwin Hospital, blood was collected from 3,688 donors and the number of transfusion given to the patients was 3,713 during 1960.

Laccadive Islands—There was no Blood Bank in the Union Territory of Laccadive Islands during the year 1960.

Manipur—Arrangements for blood transfusion were made in the Blood Transfusion Unit, Civil Hospital, Imphal. 320 bottles of blood were supplied, 165 litres of blood were collected from voluntary donors and 4 litres from paid donors during the year under report.

Tripura—There was no Blood Bank in the Union Territory of Tripura during the year 1960.

X-RAY, RADIUM TREATMENT AND ISOTOPE

Facilities for X-ray and therapeutic purposes were still far from satisfactory in the entire country. Facilities for radium treatment thus also remained inadequate during the period covered by this report.

The position regarding the X-ray facilities etc., available in the various States of India on the basis of information so far received from them, is detailed as follows:—

Andhra Pradesh—X-ray facilities were available in all the Government (teaching and non-teaching) and Headquarters Hospitals in the State. Every T.B. Clinic was well equipped with X-ray Operators.

Radium therapy facility was available at King George Hospital, Visakhapatnam, Government General Hospital, Guntur, Kurnool and Kakindada. This sort of facility was also available at the Radium Institute and Cancer Hospital, Hyderabad. Radium Isotopes were not available in any institution of this State and the same could not be provided due to short of funds.

Assam—There were proper arrangements for X-ray examination and treatment in the Assam Medical College, Dibrugarh of the State. Some aid was received for X-ray plant etc., from International Organisations. Almost all the district and sub-divisional hospitals were equipped with X-ray plants.

Gujarat—X-ray machines were provided almost in all the Civil Hospitals and in the District Headquarters of the State during the year under report. The training and employment of X-ray technicians started in the First Five Year Plan period was also continued in the Second Five Year Plan programme. This activity was further proposed to be augmented in the Third Five Year Plan programme. The training given to these technicians in the technique of X-ray work was found sufficient to meet with the demand in this State. The facilities for X-ray and screening etc., were found to be satisfactory during the period covered by this report.

Kerala—There is no radium or isotopes available in the X-ray Department of the Medical College Hospital, Calicut of this State. There was a 200 K.V. Deep X-ray machine in use during the year under review. 682 patients were treated with radium in Medical College Hospital, Trivandrum and 825 patients were treated with X-ray during the period covered by this report.

Madhya Pradesh—X-ray machines were available at 125 hospitals in this State during the period covered by this report. The radium treatment facilities were available only at M.Y. Hospital, Indore and J.A. Hospital, Gwalior. At the Victoria Hospital, Jabbalpur, superficial and deep X-ray therapy facilities were also available.

Madras—In the Barnard Institute of Radiology, facilities for the treatment of malignant diseases by Deep X-ray and Radium were available. The proposal for opening a Radio Active Isotope was under the consideration of the State Government. The total quantity of radium available for use was about 900 mgms. Separate wards for cancer patients (undergoing radium treatment) were available in the Government General Hospital, Government Stanley Hospital and Government Hospital for Women and Children in Madras, and the Government Erskine Hospital in Madurai and the Raja Mirsadar Hospital at Thanjavur. The different methods of radium application were surface application, intra cavity and by implantation. The most common cases treated by the above methods were cancer of the uterine cervix, the oral cavity and cancer of the penis.

Maharashtra—In all General Hospitals fully equipped X-ray Departments were attached. In certain big hospitals like J.J. Group of Hospital, G.T. Hospital and St. George Hospital, Bombay, the X-ray Departments were well equipped with modern diagnostic X-ray machines and various kinds of X-ray could be taken. There had been a constant increase in number of special investigations including cardio-angiography, cerebral angiography industrial studies, splenography, cholangiography etc. The investigations were demanded by specialists clinical medicines including Cardiologists Neurology etc. As regards therapy work, number of patients treated in the deep and superficial X-ray were on the increase and meticulous care was taken by the Radiologists towards each patient.

Electro therapy application was also getting widen and larger benefits were obtained by the patients. Radium and Isotope had not yet been started in X-ray Departments.

Mysore—There were 47 medical institutions in the State, where X-ray facilities were available for the treatment of both in-patients and out-patients. The total number of cases treated were 300,106 during the year under review. There were only 4 medical institutions viz., Victoria Hospital, Bangalore, Bowring and Lady Curzon Hospital, Bangalore, R.K. Hospital, Mysore and H.Q. Hospital, Mangalore in the entire State of Mysore where facilities for radium treatment were available. The total number of patients treated in these institutions were 887. There were no facilities existing for isotopes treatment in this State during the period covered by this report.

Rajasthan—X-ray facilities were provided in all the major hospitals of the State. There were 103 diagnostic and 16 therapeutic X-ray sets provided in 56 medical institutions located all over State during the period covered by this report. No facilities for Radio-Isotopes were available in the State. Facilities for Radium Therapy existed only in Ganga X-ray and Radium Institute, Bikaner. 140 mg. was the quantity of radium available in this Institute during the year under report.

West Bengal—X-ray plant was provided in each District Hospital and also some of the Sub-divisional Hospitals besides T.B. Hospitals and Sanatoria in the State of West Bengal. Further, the X-ray examination facilities were provided to indigent patients attending out-door or in-door during the period under review.

Andaman and Nicobar Islands—One X-ray Section attached to the Civil Hospital, Port Blair functioned in this Union Territory during the year under report. Two minor X-ray sets were working here. The supply of films to this X-ray section remained also satisfactory. 808 patients were X-rayed. Facilities for Radium Therapy and Isotopes were not available and any patient required this type of treatment was sent to mainland hospital (mostly Calcutta and Madras) where such facilities existed.

Delhi—The X-ray machine was set-up in the Ayurvedic Unani Tibbia College, New Delhi and Honorary Radiologist and the X-ray Technician had worked in this hospital during the year under review. The statistics of the work done in the Irwin Hospital, New Delhi was as follows :—

(a) X-ray diagnostic	73,534
(b) Screening	9,977
(c) X-ray Therapy	945
(d) Electro-therapy	2,235
(e) Special examination	2,931

Himachal Pradesh—The statistics of work done at the Himachal Pradesh Hospital, Snowdon, Simla during the year 1960 was as follows :—

(a) X-rays taken	4,029
(b) Screening	1,932
(c) Radium treatment given	4

Laccadive Islands—X-ray, Radium Therapy facilities etc., were not in use in the absence of any specialised services in the hospitals of this Union Territory.

Manipur—In the X-ray Section of Civil Hospital, Imphal, 1,449 cases of Skiagraphy and 769 cases of Flourosocopy were performed in the year 1960 as against 879 and 996 respectively during the preceding year.

Pondicherry—The technical sanction of the scheme for the provision of office rooms and for the Radiologists and separate rooms for electro-cardiogram and for electro-therapy etc., in the General Hospital, Pondicherry was awaited by the Public Works Department for starting the work. The cost of scheme was Rs. 22,000.

Tripura—There were 2 X-ray plants in operation in two Sub-Divisional Hospitals each with 20 in-door beds. Free services of these plants were made available to the indigenous patients. Radium Therapy and Isotopes facilities were not in existence in this Union Territory during the year under report.

MENTAL HOSPITALS AND PSYCHIATRIC PROBLEM

The Health Survey and Development Committee set up by the Government of India, under the Chairmanship of Sir Joseph Bhore, in the year 1946 had previously considered the problem of mental diseases in India. The Committee pointed out in its report that the proportion of mental patients in India may be considered as not less than two per mille of population whereas the ratio for the same in case of advanced country like U.S.A. varies from 5 to 8 and that in case of U.K. it varies from 3 to 4 per mille of population. Thus on the basis of this assumption, the hospital accommodation for at least 7,20,000 mental patients should be made available in India for the proper and timely treatment of such patients. Today, however, in India there are a little more than 15,000 beds available in the various Mental Hospitals/Institutions etc., which are 36 in number as shown in Table 42. The mental patients, such as children with disorders of behaviour and intelligence, psycho-neurotic disorders, adults suffering from psycho-somatic disorders do not have any proper facilities for their timely and necessary treatment in the country. Mental deficiency is becoming another immediate problem and so is the case of epilepsy.

To give a rough idea about the incidence of the disease, the Estimate Committee of Parliament in its Report on Medical Services—Part I for the year 1958-59 quoted the following extract from an article written by the Director, All-India Institute of Mental Health, Bangalore :

“In India correct statistics as to the incidence of mental disorders is not available. Roughly we may take about 2 per thousand of our population as likely to be afflicted with a disorder which requires hospitalization at some stage or other and the total number runs into several millions. We have also to take into account the mental defective who average at least 8 to 10 per thousand of our population and epileptics who perhaps number 0.5 per cent of the population. Further, we must include in this category various types of physical illnesses like high blood pressure, skin disorders of various types, cardio-vascular conditions and others in which chronic emotional stresses do contribute a major share. Added to this formidable list we have problems of social pathology. In our country about 7,50,000 crimes are committed every year, between 15,000 and 17,000 people commit suicide in a year and at the lowest estimates about 15 to 20 per cent of our teenagers are juvenile delinquents. The correct statistics of alcoholics in India is not available but it seems to form a tremendous figure.”

The above statement, would indicate that the problem of mental illness is alarmingly serious and needed to be tackled immediately and efficiently. Its accuracy needs to be determined. Unless accurate statistics is available and the magnitude of the problem is accurately known, Government cannot properly plan the provision of mental health services in the country. The Committee, therefore, recommend that with a view to have a correct estimation of the incidence of mental diseases in the country and its connected problems, Government should sponsor a systematic survey under the aegis of a competent organisation, independent of the author of the above statement.

The Ministry of Health initiated action on the above quoted recommendation of the Estimate Committee and approached the Indian Council of Medical Research that the latter may undertake a survey for obtaining a correct estimate of the incidence of mental diseases in the country. The Indian Council of Medical Research placed the subject for consideration before the Mental Health Advisory Committee of the Council. The Mental Health Advisory Committee of the Indian Council of Medical Research considered the subject and recommended as under :

“The Committee discussed this problem extensively. It was of the view that a survey of incidence of mental diseases and mental deficiency in the country was very urgent. The All-India Institute of Mental Health in Bangalore is conducting a survey of mental morbidity with the support of the Council, and the Committee has taken steps to standardize and develop norms of tests of intelligence which would help in conducting a survey to study the incidence of mental deficiencies in the country.

The Committee felt that house-to-house survey had to be done on a sample of the population in each State. It was felt that several All-India Organisations, like the Indian Psychiatric Society, Neurological Society of India, Indian Psychological Association, All India Educational Conference, All India Conference of Social Work, might be requested to send their suggestions to study the incidence of mental diseases and mental deficiency”.

The Committee appointed a Sub-Committee to develop a concrete scheme for undertaking such a survey in view of the suggestions made by the above mentioned organizations. The Sub-Committee decided that before preparing a scheme as recommended by the Advisory Committee, it would be necessary to collect information on the incidence of mental morbidity from the various institutions in the country by issuing a questionnaire. A set of the questionnaire was prepared by the Sub-Committee and was further approved by the Mental Health Advisory Committee of the Indian Council of Medical Research for collection of necessary statistics from the various Mental Hospitals in the country to arrive at some estimation of the mental morbidity and mental disorders prevailing in the country.

In 1960, the question of re-organising for the collection of mental health statistics from the various Mental Hospitals in the country on uniform basis was also taken up in view of the recommendation made by the Estimate Committee of Parliament.

It is now realised that the expansion of mental health services can be carried out only with a simultaneously intensive programme. The Union Government selected the Mental Hospital, Bangalore for providing facilities for post-graduate teaching and research in mental health. In 1954, the All India Institute of Mental Health, Bangalore, in association with the Mental Hospital, was established. The Union Government had taken over the Mental Hospital at Ranchi and have recognised it for making it a model centre for the treatment of mental disorders. Many non-Government and voluntary organizations also play a vital role in this programme. The W.H.O. has taken keen interest in fostering up the mental health programmes in the country.

The responsibility for promoting the mental health of society lies not only on its psychiatric services, but also to a much greater extent, on its legislators, administrators, educationists, industrialists and social scientists. Various forms of social ills, like alcoholism, juvenile delinquency, beggary, crime and prostitution call for effective social action. The aim should be to rehabilitate the individual and reform social customs and institutions. Determination of vocational aptitudes through psychological tests is another step in prevention of the psychiatric diseases. Our mental health programme should aim at the development of satisfying human relations at all ages and at all levels of society and at the reduction of hostility and tensions in inter-personal and inter-group relations.

Treatment on modern lines in Mental Hospitals, such as convulsive therapy (chemical and electrical) insulin coma treatment, hydro-therapy, psycho-therapy, therapy with drugs or tranquilisers etc., were available in certain hospitals of the country.

Occupational and recreational therapies at Mental Hospitals for mental patients, modernised under the guidance of specialised staff continued to receive increasing attention. Table 43 shows the bed capacity in the various Mental Hospitals/Institutions in India during the year 1960. Most of the mental hospitals had Out-patient Department, psychiatry facilities while the Child Guidance Clinics were only attached to a few of the mental hospitals, viz., Hospital for Mental Diseases, Kanke (Ranchi), Bihar State, Mental Hospital, Bangalore, Mental Hospital, Jaipur, Mental Hospital, Agra, Lumbini Park Mental Hospital, Calcutta, Mental Hospital, Mankundu, Hooghly and the Bodhi Peet Mental Hospital, Calcutta. There were 15,973 beds available in the various Mental Hospitals in the country of which 10,481 beds were the sanctioned and 5,492 were the extra ones. The number of beds available per lakh of population in the country during the year 1960 worked out to be 4.1. The highest bed capacity (13.8) available per lakh of population during the year under report was in the State of Maharashtra and the least bed capacity (0.5) was in the State of Madhya Pradesh.

Table 44 shows the number of patients treated (in-door) and the discharges made during the year under report by the various Mental Hospitals in different States of the country. In all 20,416 cases (in-door) were treated for various mental disorders and 11,494 patients were discharged during the year under review. The State of Madras recorded the highest percentage of 21.6 for mental patients (in-door) treated and the least percentage of 0.3 was recorded in the Gujarat State. The other higher percentages were recorded in the States of Mysore (14.0), Bihar (12.4), Kerala (11.4), Punjab (7.1) and Orissa (6.8) for the patients treated (in-door) in the various Mental Hospitals of the country.

In all 1,267 deaths were recorded in the various Mental Hospitals in the country. The State of Maharashtra recorded the highest mortality due to various psychiatric diseases. In almost all the States the incidence of the psychoses group of mental disorders was the highest during the year under report. The Mental Hospital, Madras incurred the maximum expenditure (Rs. 24,61,162) during the year 1960 followed by the Central Mental Hospital, Poona-6, (Rs. 20,75,538) and Punjab Mental Hospital, Amritsar (Rs. 1,007,745). The S.C.B. Medical College and Hospital (Out-patient Department Psychiatry), Cuttack recorded the least expenditure of Rs. 4,390.

The State-wise information on the mental health problem is summarised below :

Andhra Pradesh—There were two mental hospitals in the State i.e., Hospital for Mental Diseases, Hyderabad and Mental Hospital, Waltair, Visakhapatnam District with a bed strength of 600 and 382 respectively. Besides, Psychiatric Clinics also functioned at K.G. Hospital, Visakhapatnam, Guntur General Hospital, Guntur, Kurnool General Hospital, Kurnool providing in-patient clinics with a bed strength of 10 to 15 in each hospital. The psychiatric units and the clinics cater the modern facilities to the patients suffering from mental disorders and are not eligible for admission in the Mental Hospital without the court orders. Facilities for brain surgery was also provided at King George Hospital, Visakhapatnam, Government General Hospital, Guntur and Osmania General Hospital, Hyderabad in the neuro-surgery department.

During the year under report a Child Guidance Clinic was also established at Niloufer Hospital. The matter regarding the establishment of a training school for the mentally handicapped children is under the active consideration of the State Government.

Assam—There was one Mental Hospital at Tezpur for treatment of the mental cases in this State. In the districts uptill now there is no separate organization for the psychiatric conditions prevailing in the State. 1,098 cases were treated (in-door) while 277 were discharged during the year under review. 41 patients died during the year covered by this report.

Bihar—There were two mental hospitals functioning in this State during the year 1960. There is no earmarking of beds according to sex in the Hospital for Mental Diseases, Kanke (Ranchi), Bihar State. The bed strength is divided between male and female patients in the ratio of 60:40 approximately. The total bed capacity in this hospital was 453. Various kinds of in-door and out-door games were available at the hospital. There is a library with more than 2,000 books. Sports are also held annually during Christmas time. All the modern kinds of treatment were available in this hospital during the year under report. The other mental hospital viz., Ranchi Mansik Arogyashala, Kanke (Ranchi) was also well equipped during the year under report. In all 4,963 (in-door and out-door) cases (male 3,854 and female 1,109) were treated during the year under report.

Gujarat—All the mental hospitals were overcrowded during the year 1960. There were 209 cases under observation in the various Mental Hospitals of the State. The total number of criminal insane continued in Mental Hospitals as 71 (male 60 and female 11). No new major work was sanctioned during the period. The total receipts amounted to Rs. 57,842. The facilities both for in-door and out-door patients were provided. The facilities on modern lines such as insulin shock therapy and electric convulsive therapy were given at some mental hospitals in the State during 1960.

Jammu and Kashmir—There was one mental hospital functioning at Srinagar. The hospital was well equipped with the modern facilities of treatment for mentally defective patients.

Kerala—There were 3 mental hospitals functioning in this State. No institution for training mentally defective children existed during

the year under report. 2,329 cases were treated (in-door) and 556 cases were discharged as improved. 248 cases expired during the year under report.

Madras—In all 4,412 patients (in-door) were treated during the year under report due to various psychiatric diseases in the Government Mental Hospital, Madras. Among these patients one-third of them were women. The chronic schizophrenic population is responsible for swelling the numbers. As there are no facilities available in this State for the care of epileptics with behaviour problems, they form also a considerable number. There is also a Children's section (boys and girls) attached to the hospital covering mostly very backward and sub-normal children.

All the modern methods of treatment were given. Psychiatric Clinics were also attached to Government General Hospital, Government Stanley Hospital and Government Erskine Hospital, Madurai. There were two Child Guidance Clinics attached to the Paediatrics Department of the Government General Hospital and the Government Stanley Hospital, Madras. Bala Vihar run under the auspices of the 'Guild of Service' is the only Institution providing residential accommodation for sub-normal children. 104 deaths (male 68 and female 36) occurred during the year under report.

Madhya Pradesh—There were two Mental Hospitals in the State one at Indore and the other at Gwalior. These hospitals were well equipped. Arrangements for electric shock therapy existed at both the hospitals. In all 235 cases were admitted during the year under report giving a percentage of 1.2 to total number of patients treated in the various mental hospitals in the country. 144 cases were discharged as 'improved' and 'cured'. 3 deaths occurred during the year under report.

Maharashtra—There were 4 mental hospitals in the State of Maharashtra during the year under review. The total sanctioned bed strength in the year 1960 was 2,573 with an additional bed capacity of 2,827. But all the hospitals were overcrowded.

The major group of mental illness amongst the patients treated was that of Schizophrenia. All the types of physical forms of treatment like E.C.T., insulin coma, therapy were given. Drugs treatment especially tranquilizers were extensively used. Suitable patients were employed in occupation therapy like helping in routine work in farms and gardens in weaving shed. Recreational clubs in males and females sections were fully utilised by the patients throughout the year. Patients also took full benefit of in-door games such as Billiard, Table Tennis and Carrum etc. Cinema shows were arranged in the hospitals for the entertainment of the patients. At Central Mental Hospital, Poona, a large mansion continued to be rented for keeping better behaved patients. Here the patients get the benefit of staying in the atmosphere of a hostel.

Mysore—There were two major Mental Hospitals in the State, one at Bangalore with sanctioned bed strength of 500 and the other in Dharwar with sanctioned bed strength of 249. At Mental Hospital, Bangalore during the year under report, 2,858 cases were admitted. 2,042 cases were discharged as improved. 7,245 out-patients were registered. This indicates that the public are becoming conscious of the effective psychiatric treatment. The average stay of

the in-patients was reduced to nearly 35 days from 47 days which was during the year 1959. The majority of cases were diagnosed as schizophrenic cases, epileptic cases and brain tumour cases. The various types of treatment viz., medical treatment, psycho-therapy, E.C.T. and E.C.T. (modified), insulin coma treatment and modified insulin treatment and occupational treatment were used in treating the mentally disturbed patients effectively during the year under review. Out-patient Department was started in the month of June, 1960 at Victoria Hospital, Bangalore. Proposal was sent to the State Government for approval to open Psychiatric Out-patient Treatment Section at all the District General Hospitals in the State. Proposal was also sent to the State Government for approval to start Child Guidance Clinic at Vani Vilas Hospital, Bangalore and to start Psychiatric Out-patient Department at Bowring Lady Curzon Hospital, Bangalore. A Vocational Section and Guidance Centre was also started functioning in Bangalore during 1960. Also, a private school for mentally handicapped children was started functioning during 1960 by the Association for the mentally handicapped.

Orissa—No remarkable progress was achieved in this State during the year under report.

Punjab—There was only one Mental Hospital, Amritsar functioning in this State. The number of patients treated (in-door) were 1,443 (males 915 and females 528). Constituting a percentage of 7.1 to the total mental patients treated in the various States of India during the year under report. 51 deaths occurred during 1960.

Rajasthan—The cases of mental disorders have been increasing year by year. The total number of out-door patients of all types of mental disorders treated in all the State Public Hospitals and Dispensaries was 29,855 in 1960 as against 25,744 in 1959. Cases of schizophrenia, depressive psychosis came across during the year under review. The facilities for the treatment of mental cases existed in two Mental Hospitals one at Jaipur and the other at Jodhpur. The facilities of almost all types of modern treatment were available in these two hospitals including electrical treatment, insulin treatment, psychotherapy and occupational treatment. The combined bed capacity in the two mental hospitals was 240 during the year 1960.

Uttar Pradesh—There were three mental hospitals functioning each at Agra, Bareilly and Varanasi during the year under report. All these hospitals were providing the modern facilities for treatment of mental patients. The number of beds per lakh of population in this State was worked out to be 2 when for whole of India this number worked out to be 4 during the year under report.

West Bengal—The State Government maintained 915 beds in the two Mental Hospitals at Ranchi. However, the following Mental Hospitals and Clinics were functioning in the State :

1. Lumbini Park Mental Hospital	165 beds
2. Mental Hospital, Mankundu	60 „
3. Bangiya Unmad Asram, Dum Dum	90 „
4. Medical College Hospital, Calcutta.	4 „
5. R. G. Kar Medical College and Hospital, Calcutta	2 „
6. Alipur Central Jail	6 „
7. Bodhi Peet, Calcutta	75 „

A Mental Observation Ward existed at Bhowanipur, Calcutta with a bed strength of 30, where patients were detained and if declared insane, were sent to Ranchi Hospital for treatment.

Andaman and Nicobar Islands—There was no mental hospital functioning in this Territory. Persons suffering from mental disorders were detained in the Mental Observation Ward inside the District Jail. 15 cases were treated at this ward and 12 persons were discharged as they showed improvement in their mental conditions. One case was transferred to Madras State for further treatment in Mental Asylum in the mainland. There has been no specialised services available for this purpose and no international aid was received on this account during the year under report.

Delhi—The Psychiatric Out-patient Department at Irwin Hospital, New Delhi had an attendance of 4,172 (both new and old) cases. 932 patients were recorded in Epilepsy Clinic. E.C.T. Clinic started functioning on 23rd February 1960 and electric convulsive therapy was given to 678 cases. A meeting of the Psychiatrists from all over India was organized by the Irwin Hospital, New Delhi during the year under review.

Himachal Pradesh—Nothing could be achieved in this direction during the year under report. In the Third Five Year Plan, however, a proposal is included for adding a Psychiatrist to the Himachal Pradesh Hospital, Simla.

Laccadive Islands—There were no specialised institutions for the treatment of mental disorders in this Union Territory.

Manipur—There were no specialised institutions for treatment of psychiatric patients in this Union Territory.

Tripura—No specialised services on psychiatric conditions in this Territory were in existence during the year under report.

CHAPTER V
FAMILY PLANNING

(179—184)

FAMILY PLANNING

Since the advent of independence, momentous decisions have been taken to raise the level of living of the people. One of these important decisions is the policy to stabilize the population at a level consistent with the requirements of national economy.

The rate of population increase in India is serious and demands vigorous and sustained action. The Committee of the Working Group on Vital and Health Statistics of the Planning Commission has estimated that the 1961 census population figures will exceed 430 million and by 1966 the population of the Indian Union may reach the size of 480 million. Such a growth is primarily due to a reduction in the death rates brought about by control of communicable diseases, improvement in public health and eradication of famines. The birth rate seemed to have remained almost unchanged but death rates have dropped from 31.2 per 1,000 (1931-41) to 21.6 (1956-61). Expectation of life at birth has risen from about 27 years (1931-40) to 37.6 (1956-61). The deaths due to some causes like fevers have shown marked decrease from 12.70 (1942) to 5.16 (1958). The maternal mortality rates estimated in 1946 as 20 are reported to be now 10.4. Infant mortality rate also shows a decline from 154.6 (1951-56) to 135.0 (1956-61).

It may be safely assumed that the death rates will further decline and tend to accelerate the rate of growth observed during the last decade unless the birth rates are correspondingly reduced. It is obvious that if due attention is not paid to realistic extension of family planning programme now, a very grave situation may arise which may upset all programmes of socio-economic development. The immediate aim is undoubtedly the reduction of birth rates. Family Planning, however, is not only an emergency measure to control the rapid increase in population but a social policy regarding family welfare giving the right to every family to have children by their own choice, providing assistance to parents to bring up children with love, care and affection and creating conditions in which the children can grow up as happy and healthy citizens. Spacing of children provides a measure of safety towards preserving the health of the mother, happiness and harmony in the home and care of the child.

Progress :

A nation-wide programme for reducing birth rate is unprecedented. The problem of making over 80 million family to decide individually to make family planning as a way of life is complex. It was essential to understand first the basic factors which influence the acceptance of family planning practices *i.e.*, to investigate social, economic, psychological factors which influence the decision of parents to have a limited number of children. It was necessary to find answers to questions like what groups rural and urban plan their families and which do not and for what reasons? Through what channels of communication do people come to acquire knowledge about family planning? What are the motives of the couples to restrict the size of the family? How do environment, social legislation, social climate, hopes in the future betterment, faith in measures for improvement of level of living etc., affect the behaviour of individuals (*e.g.*, if a villager

has full faith in the general development programme of the community his faith in family planning will be strengthened). How much do they know of elementary physiology of human reproduction and methods of birth control? What are their reasons for choice of a particular method? Why do they give up after accepting contraceptive practices? What are their attitudes towards the family planning services provided? What are their anxieties, values and goals? What methods can give the desired results in a measurable time? The enduring effect of programme depended on proceeding step by step. But urgency of the problem demanded a bold action-research approach, action based on available knowledge and to modify action as additional information is accumulated.

A provision of Rs. 0.65 crores was made in the First Five Year Plan period and about Rs. 0.16 crores were spent. A great deal of attention was paid to research on rhythm method, which was considered suitable to the cultural background of the people.

An allocation of Rs. 4.97 crores was made for the Second Five Year Plan period. Against a budget provision of Rs. 30 lakhs during 1956-57 Rs. 8.64 lakhs only were utilised. On 1st September, 1956, the Central Family Planning Board was formed and on the 26th September, 1956, Director, Family Planning (originally designated as Officer on Special Duty) was appointed. The programme was reviewed, re-orientated and rapidly expanded. The provision for family planning utilised during the Second Five Year Plan period is estimated to be about Rs. 4.50 crores.

Among the important steps taken were the development of the programme as peoples programme and creation of the background of acceptance, the continuous extension and review of the studies which might help in policy making and operation of the programme, the extension of research in demographic, medical and biological and motivational fields, the formation of the Demographic Advisory Committee, the Advisory Committee on Scientific Aspects of Family Planning of the Indian Council of Medical Research (for medical and biological problems), the Advisory Committee on Motivation and Communication Research, and *ad hoc* committees including one on oral contraceptives, the formation of State Family Planning Boards and District Committees, the extension of broad-based education programme including the Honorary Family Planning Education Leaders, the local leaders, orientation camps, the measures to produce contraceptives in India, the simplified procedures for giving grants, liberalised and flexible assistance to voluntary organisations and local bodies, the issue of contraceptives free and at subsidised rates through all medical and health centres, the financial assistance for extension of sterilization facilities, the extension of training programme, the development of administrative machinery at the centre and in the States to undertake extension of the programme.

The Second Five Year Plan started with 145 clinics and 67 persons trained in *ad hoc* courses. The targets for the Second Five Year Plan period included 500 urban clinics and 2,000 rural clinics. A Family Planning Training Centre in Bombay was proposed to be opened and another at Ramanagaram in Mysore State was required to be developed. The Demographic Training Research Centre in Bombay was to be developed as regional centre for South East Asia

and the research at the Contraceptive Testing Unit at the Indian Cancer Research Centre, Bombay was to be extended. The main activities indicated in the Second Five Year Plan were :—

(1) Extension of Family Planning advice and service, (2) establishment and maintenance of sufficient number of centres for the training of personnel, (3) development of a broad-based programme of education in family living which would include within its scope, sex education, marriage counselling and child guidance, (4) research into biological and medical aspects of reproduction of population problems, (5) demographic research including investigations on motivation with regard to family limitation as well as studies on methods of communication, (6) inspection and supervision of the work done by different agencies Governmental and non-Governmental to which grants were made (7) evaluation and reporting of progress and (8) establishment of a well equipped central organisation.

By the end of the March, 1961 there were about 2,963 rural and 876 urban centres which provided family planning services as shown in Table 45. These included 1,090 rural and 546 urban regular clinics and 1,864 rural and 330 urban medical and health centres distributing contraceptives excluding units providing sterilization facilities. Financial assistance was extended for mobile units, strengthening hospitals upto district level, for providing sterilization facilities and strengthening staff of teaching hospitals to provide instruction in the sterilization technique. It was stipulated that sterilization facilities were to be extended on voluntary basis with the consent of both husband and wife and on merits of each case. The response was unexpectedly encouraging especially in the States of Madras and Maharashtra. The State of Madras reported 2,109 vasectomy cases and 1,191 salpingectomy cases in 1960. The sterilization figures in Maharashtra during 1960 were reported to have exceeded 25,000. During an intensive Family Planning Campaign, (9th November to 18th December, 1960), 14,559 operations were performed including 10,115 in vasectomy camps. In some places response was reported to be so enthusiastic that it was difficult to cope with the number of cases. The reported number of sterilization cases in India is steadily increasing from 7,823 (2,333 males) in 1956 to 37,951 (25,957 males) in 1960. These numbers are under reported. The significant feature is over four fold increase in total cases and eleven fold increase in vasectomy cases.

The number of sterilization operations conducted since 1956 as per information available is as follows :

Years									Males	Females	Total
1956	.	.	.	.	.	.	.	.	2,333	5,490	7,823
1957	.	.	.	.	.	.	.	.	3,671	9,859	13,530
1958	.	.	.	.	.	.	.	.	9,072	16,801	25,873
1959	.	.	.	.	.	.	.	.	13,925	21,797	35,722
1960	.	.	.	.	.	.	.	.	25,957	11,994	37,951
TOTAL									54,958	65,941	1,20,899

The demand for contraceptives has also increased. According to import and local production figures, the rubber contraceptives produced and imported in India were 7,116,456 (7,008,000 imported) in 1957 and 13,636,000 (13,016,000 imported) in 1960. The indigenous production of foam tablets was sufficient to meet the requirements. Manufacture of jellies and sheaths was started in the country.

The following publications on family planning were produced in English and regional languages and distributed to various organisations and State Governments:

Name of the publication/poster	Languages in which produced in
1	2
1. Results of too many children (poster 50,000 copies)	English, Hindi, Urdu, Assamese, Tamil, Gurmukhi, Oriya, Malyalam, Kannada, Gujarati, Marathi, Telugu and Bengali.
2. Happiness through family planning (poster 50,000 copies).	Ditto.
3. Children Day Poster (1958) (2,97,000 copies).	Ditto.
4. Children Day Poster (1959) (5,000 copies)	English.
5. Prize Winning Posters (1960) (37,000 copies).	English and other languages mentioned as against 1 above.
6. Family Planning folder Exhibition (1958) (1,00,000 copies).	English and Hindi.
7. Family Planning folder (Practice & Prosperity) (20,000 copies).	English.
8. Why Family Planning (1958) (30,000 copies)	English and Hindi.
9. Techniques of conception control (4,30,000 copies)	English and regional languages.
10. Family Planning folder (if they could speak), (1,00,000 copies).	Hindi and other languages as in 1 above.
11. May we help you (folder) (2,10,000 copies)	English and other languages as in 1 above.
12. Family Planning Questions answered (1958) (10,000 copies).	English.
13. Family Planning Training & Research Centre (1958) (5,000 copies).	Ditto.
14. Family Planning in India (Reports) (1958) (50,000 copies).	Ditto.
15. Family Planning Progress (1958) (10,000 copies)	Ditto.
16. A play-let on Family Planning (1960), (9,77,500 copies)	English and other languages as in 1 above.
17. Vasectomy (1960) (50,000 copies)	English.
18. Growth of population in India (1960) (10,000 copies)	Ditto.
19. Population & Employment (1960) (10,000 copies)	Ditto.

Name of the Publication/Poster	Languages in which produced in
20. Food requirement for growing population (1960) (10,000 copies).	English
21. Fertility Control in India (1960) (10,000 copies) .	Ditto.
22. A New Way of life (1960) (10,000 copies) . .	Ditto.
23. National Income (1960) (10,000 copies) . .	Ditto.
24. National Income vs. Population (1960), (10,000 copies).	Ditto.
25. Studies in Fertility (1960) (2,000 copies). . .	Ditto.
26. Family Planning News Monthly Issue (10,000 copies).	Ditto.
27. Family Planning Brochure No. I (2,90,500 copies) .	English, Hindi and other languages mentioned as against 1 above.

Training in family planning has been included in the course of training at the All India Institute of Hygiene and Public Health, Calcutta and Orientation Training Centres at Najafgarh, Poonamallee and Singur.

The Family Planning Training and Research Centres for potential instructors was established in Bombay on the 15th March, 1957. The Rural Training, Demonstration and Experimental Centre was developed at Ramanagaram and the first course of training was started on 12th August, 1957. The Family Planning Training Centre at Delhi was started in 1959 and the first course was started on the 18th July, 1960. A grant for pilot Touring Training Team was given to the Family Planning Association of India, Bombay. Ten touring teams were also sanctioned. Regional Training Centres were functioning in the States of Andhra Pradesh, Assam, Gujarat, Kerala, Madras, Maharashtra, Orissa, Punjab and West Bengal. Short term *ad hoc* training courses are being conducted in different places where facilities exist.

Provision was made for research in demographic, medical biological and communication and motivation problem associated with family planning. The medical and biological research was mainly conducted through the Indian Council of Medical Research. International agencies like Ford Foundation and Population Council offered assistance in research and training programmes.

Investigation on contraceptives were carried out at the Contraceptive Testing Unit, Indian Cancer Research Centre, Bombay; the All India Institute of Hygiene and Public Health, Calcutta; the Central Drugs Research Institute, Lucknow; Institute of Post-graduate Medical Education and Research, Calcutta; the Bacteriological Institute, Calcutta and the Pharmacology Department of the Lucknow University. A number of oral contraceptives were investigated and research on Mataxylohydroquinone was in progress.

Family Planning Orientation Training Camps :

Two hundred and fifty-nine Family Planning Orientation Training Camps—186 to the State Governments and 73 to Family Planning Education Leaders and Local Organisations etc., were sanctioned up to March, 1961. According to available information, 62 camps were held so far. The number of camps held in the various States and the number of persons, who attended those camps up to March, 1961 is as under:

States	Camps held	Persons attended
1. Andhra Pradesh	9	475
2. Assam	2	620
3. Gujarat	2	90
4. Madhya Pradesh	1	5,000
5. Madras	7	368
6. Mysore	6	457
7. Maharashtra	8	734
8. Punjab	3	1,100
9. Rajasthan	2	200
10. Uttar Pradesh	4	280
11. West Bengal	2	128
12. Delhi	16	3,635
TOTAL	62	12,787

CHAPTER VI
MATERNITY AND CHILD WELFARE SERVICES

(185—194)

MATERNITY AND CHILD WELFARE SERVICES

The health and welfare services of mothers and children are inter-dependent and must progress side by side to obtain optimum results. It is for this reason that the health programmes for mothers and children include welfare programmes and the services are called "Maternity and Child Welfare Services". The services thus form an integral part of health services of the country. The results of the schemes implemented during the First and Second Five Year Plans and the services developed with the various international agencies are encouraging. The Ministry of Health, Government of India, established the post of Adviser in Maternity and Child Welfare Services in the Directorate General of Health Services, New Delhi. The WHO and UNICEF provided assistance for these services. Such agencies not only provided the most needed equipment, drugs and diet supplements, but also helped to improve the standard of services and to popularise the Centres throughout the country.

The projects aimed at to (i) improve and increase training of health personnel (ii) establish model health services centres and (iii) strengthening the administration of Maternity and Child Welfare Services at State and local levels.

Under the First Plan, Central assistance of Rs. 50 lakhs was provided to the States for expanding Maternity and Child Welfare Services in the backward areas of the country. About Rs. 15 lakhs were provided for expanding the training scheme under Central assistance, the State Governments established 200 Maternity and Child Welfare Units. 700 existing Maternity and Child Welfare Centres received UNICEF equipment. A total of 1,069 Child Welfare Centres were established by the States. Under the Second Five Year Plan, the Maternity and Child Welfare Services became an integral part of overall health services in rural areas and are now gradually absorbed in Primary Health Centres. 2,695 Primary Health Centres were established upto 31st March, 1961 where Maternity and Child Welfare Services are developed as an integral part of their activities.

Institutional services are largely concentrated in urban areas. In the large cities the demand for maternity beds has considerably increased as 90 per cent of mothers deliver their new-borns in institutions. In towns approximately 50 per cent of births take place in hospitals and 70 per cent have skilled care (institutional and domiciliary). The maternal mortality has come down by 50 per cent. It was 20 per 1,000 of live births in 1938, for the country as a whole. It is now 10 per 1,000 of live births for rural areas (estimated) alone and 12.4 for the country as a whole (urban and rural). Table 46 gives necessary statistics regarding the number of Maternity and Child Welfare Centres maintained by the Government, Local and Municipal Bodies etc., along with the number of health personnel employed therein during the year 1960. Table 47 indicates the number of maternity beds in the Maternity Hospitals and Maternity Wards in the General Hospitals etc., in the various States of India during the period under review.

The total number of beds for maternity cases in large Maternity Hospital assisted with teaching of Obstetrics in Districts Hospitals and Maternity Homes, etc., in rural areas during the period covered

by this report were 4,802, which are perhaps too small in view of the growing needs of the people living in the rural and suburb areas of the country. The number of beds available in similar institutions of the urban areas during the year under report were 26,370. The State-wise break-up of this information is shown in Table 47.

Training :

One of the most important aspects of the development of Maternity and Child Welfare Services in the country is the training of different medical and health personnel to man the services since the large bulk of mid-wifery services in villages would continue to be rendered by dais already practising in the villages. The Health Visitors/Public Health Nurses and Mid-wives organise ante-natal examination of cases, follow them up in the homes along with the dais of the particular village. She also conducts post-natal clinics and visits the mothers at home during the lying-in period and advises them on health and hygiene and on the care of new born baby. During the Second Five Year Plan the target was to train 36,000 dais so as to systematically cover the area served by the Primary Health Centres.

Health Visitors :

A centrally assisted scheme for the training of Health Visitors to start the Maternity and Child Welfare programmes under Community Project was started at 8 Health Schools viz., Lucknow, Nagpur, Visakhapatnam, Madras, Amritsar, Hyderabad, Sirur (Calcutta) and the Lady Reading Health School, Delhi during 1954-55. The training courses are of two types i.e., one of 2½ years duration for candidates recruited directly for training after passing out of their Matriculation Examination and the other course is of 1½ years duration and these candidates are admitted for this course who hold a certificate in midwifery.

During the Second Five Year Plan period, it was proposed to train 1,600 (including 300 at Lady Reading Health School, Delhi) Health Visitors with central assistance. For this purpose, the existing nine schools were expanded and eight new schools were established at Bareilly, Allahabad, Rajkot, Ranchi, Indore, Trivandrum, Srinagar and Bangalore. The School at Ranchi was amalgamated with the School at Patna.

Upto the end of the year 1960, out of 1,191 and 1,537 candidates admitted respectively to the Health Visitors and Integrated Mid-wifery-cum-Health Visitors Courses, 1,068 and 670 candidates completed their training. During 1960-61, a provision of Rs. 4,60,000 was made in the budget estimates for grants to State Governments on account of the Centres sharing of expenditure on this training programme.

Dais :

The Government of India sanctioned a centrally assisted scheme under the Second Five Year Plan for the training of 36,000 dais at an estimated cost of Rs. 90 lakhs with a view to improving their standard of practice. Under this scheme 150 units for the training of Dais were to be established in States, each unit covering a population of about 66,000. A total of approximately 60 Dais were proposed to be trained in each unit in a year in two batches of 30 each.

Thus one Dai for 1,000 to 15,000 population or one Dai for every 50 births was proposed.

With a view to attracting a large number of Dais for the training, the Government of India sanctioned stipends at the enhanced rates of Rs. 30 per month with effect from 1st December, 1959. In addition, the Government of India also agreed to bear 50 per cent. of the cost of refills for the "Dais bags" at the rate of Re. 1 per midwifery case after the completion of their training in accordance with the scheme. 11,796 dais were trained during the Second Five Year Plan period upto 31st March, 1961.

The training programme is under implementation in the States of Andhra Pradesh, Bihar, Maharashtra, Gujarat, Madhya Pradesh, Madras, Mysore, Orissa, Punjab, Rajasthan, Uttar Pradesh, West Bengal and in the Union Territories of Andaman and Nicobar Islands, Himachal Pradesh, Delhi, Laccadive, Minicoy and Amindive Islands, Manipur, Pondicherry, Tripura. During 1960-61, a sum of Rs. 7.74 lakhs was allocated to various State Governments for the training of Dais. The State-wise break-up of the medical and health personnel trained during the year covered by this report in the various States/Union Territories of India is given in Table 48.

The activities of the States and Union Territories in respect of Maternity and Child Welfare Services, as far as available with this Directorate, are summarised below.

Andhra Pradesh—The total number of Maternity and Child Health Centres in the State by the end of 1959 was 859 and by the end of 1960 the number was increased to 969 with the establishment of 110 new Centres.

During the year 1960 the following schemes for training of 90 Health Visitors at each of the two Health Schools at Hyderabad and Visakhapatnam in the State were implemented :

1. Training of 30 Health Visitors under normal scheme of training of Health Visitors ;
2. Training of 30 Health Visitors under increased number of training of Health Visitors ; and
3. Training of 30 Auxiliary Nurse-Midwives and Health Visitors for one year course.

However, only 151 candidates could be admitted to the training during the year 1960. 55 Health Visitors passed from the two Health Schools during the year 1960.

974 Indigenous Dais were recruited and trained in clean midwifery schemes during the year under plan scheme for training of Indigenous Dais for which Central assistance is forthcoming.

Assam—The Maternity and Child Welfare Services were carried on smoothly in the State. The State Government appointed one Maternity and Child Welfare-cum-Family Planning Officer, Assam to supervise the work of Maternity and Child Welfare etc., in the State. Necessary mid-wifery and domiciliary ante-natal and post-natal cases continued to be attended both in rural and urban areas of the State during the year under report.

Bihar—Two schools to train nurses *viz.*, Patna Medical College Hospital, Patna and Darbhanga Medical College Hospital, Laheria-sarai had worked. Two schools to train Lady Health Visitors which were functioning at Patna and Ranchi were amalgamated into one and is functioning at Patna. There are at present four Auxiliary-Nurse Midwives schools one each at Gaya, Bettiah, Bhagalpur and Ranchi. The admission on behalf of Auxiliary Nurse Midwifery School, Muzaffarpur is being done in Gaya. Thirty dais training centres to train 375 dais in six month course and 108 dais in one month course per annum had worked. There are 77 UNICEF assisted blocks in the State in which 54 blocks were supplied with UNICEF vehicles.

Gujarat—On account of bifurcation of the old Bombay State into Gujarat and Maharashtra on 1st May, 1960, the number of Maternity and Child Welfare Centres functioning in the State were 321 of which 148 were in rural areas and 173 were in urban areas. Supplementary feeding programme for expectant and nursing mothers and children through Maternity and Child Health Centres were carried out. Imparting of nutritional education was carried out by the health staff working in the individuals and groups during their routine visits and work. The health staff also gave sessions for preparation of diet etc. for mothers and children in the Maternity and Child Health Units.

Kerala—Three District Maternity and Child Health Organisations functioned as in the previous year under the control of the Assistant Director of Health Services (MCH) at State level.

30 Midwives continued their training to qualify themselves as Health Visitors. The training of Auxiliary Nurse Midwives continued and the Mid-wives in service underwent refresher courses of 4 weeks duration. These courses were arranged at three Hospital at Trivandrum, Ernakulam and Kozhikode districts on regional basis, each Hospital taking trainees from that district.

The statistics regarding domiciliary mid-wifery service, health visiting service etc., is give below :

Nurses visits	8,38,631
Ante-natal visits	1,32,835
Anti-natal re-visits	2,49,958
Infant visits	53,714
Infant re-visits	65,637
Toddler visits	62,694
Toddler re-visits	78,131
Deliveries conducted by Midwives (Institutions)	3,431
Deliveries conducted by Midwives (Field)	45,194

There were 662 departmental centres and 516 private centres for maternity and Child Health Feeding Programme.

Maharashtra—The Assistant Directors of Public Health, i/c of Maternity and Child Health Services, served as planning and co-ordinating agencies for the Maternal and Child Health activities in the State in their respective jurisdictions. Their other functions were to supervise the Maternity and Child Health Services in Primary Health Centres, to give technical advice and guidance and co-ordinate with the voluntary agencies, engaged in Maternal and Child Health Services in the State, now carried on an integral part of the Primary

Health Centres in rural areas. The maternity and child health services, provided at these Primary Health Centres are :—

- (i) Ante-natal, inter-natal and post-natal care domiciliary and institutional ;
- (ii) Infant and child care, domiciliary and institutional ;
- (iii) Health education ;
- (iv) Training of Dais so as to give skilled mid-wifery service to village women ;
- (v) School health ; and
- (vi) Family planning.

71 Primary Health Units (State pattern), serving about 20,000 to 25,000 population, and 26 Maternity and Child Health Centres, continued to function.

62 more Primary Health Centres (Government of India pattern) were established. Each Centre serves a population of about 60,000 to 66,000. The total number of Maternity and Child Health Centres by the end of the year 1960 were 670 of which 366 and 304 were in rural and urban areas respectively.

Madhya Pradesh—The year opened with 85 Maternity and Child Welfare Centres, 10 of which were converted into Primary Health Centres during the year under report. The year closed with 73 Maternity and Child Welfare Centres. The Primary Health Centres were engaged in health education of the community. They rendered their services, concerning health during motherhood and childhood, through Gram Sewaks, Gram Sevikas. Organisers and Social Welfare Advisory Board Staff, besides the health staff of the Primary Health Centres.

64 maternity beds were increased to provide institutional mid-wifery services. The domiciliary Services were further increased through the 29 Primary Health Centres, newly established, and 500 Dais were trained during the year under review. In all there were 229 Maternity and Child Welfare Centres functioning in the State of which 146 and 83 were in rural and urban areas of the State.

As regards the training of the Maternity Health Visitors, it was conducted at M.Y. Hospital, Indore. The year opened with 60 candidates under training and 11 qualified during the year under report. 5 Mid-wives were deputed for Health Visitor's training to the Health School, Nagpur. They completed the course successfully.

The training of Auxiliary Nurse-Mid-wives was conducted at 20 centres functioned in the State during the year under report. 4 new centres were established. The year opened with 400 sanctioned seats and closed with 600 sanctioned seats. During the year 121 candidates qualified as Auxiliary Nurse Mid-wives, while at the close of the year 431 candidates were under training.

The training of non-professional Dais or Assistant Mid-wives was conducted at 7 centres.

Mysore—The Bureau of Maternity and Child Health Services, with a full time Assistant Director of Public Health, continued to function satisfactorily during the year under report. The Maternity and Child Health Nursing Education Project, implemented in the

year 1956-57 in collaboration with the W.H.O. and UNICEF, was also continued during the year under report.

The Assistant Director of Public Health and Bureau of Maternity and Child Health Services were assisted by the Maternity and Child Health personnel working in the Health Training Centre, Ramanagaram, the Health and Medical Institutions in rural areas in providing Maternity and Child Health Services.

The services in rural areas were rendered through trained Dais, Midwives, Auxiliary Nurse Mid-wives and Public Health Nurses. These health personnel worked in the following institutions :

- (1) Training Centre Health Training Centre, Ramanagaram.
- (2) Primary Health Centres . . . Government of India pattern—149.
- (3) Primary Health Units State pattern—187.

In addition, the Midwives working in Taluk Boards, Municipalities also rendered the domiciliary services. Mid-wives attached to the dispensaries also rendered domiciliary services whenever intended by the Public.

In all 1,132 mid-wives and Auxiliary Nurse Mid-wives rendered the services. In addition, there were 3 Nursing Supervisors, 13 Public Health Nurses and 21 Health Visitors for supervision and guidance of domiciliary services.

The domiciliary services comprised of ante-natal and post-natal care and, wherever, possible infant care too. These services included the home nursing care.

Madras—The Maternity and Child Welfare work is done as institutional treatment and the same is given to those patients who come to Government Hospitals. Several Maternity and Child Welfare Centres are run either by the Social Welfare Organizations or District Boards or Panchayats or by the extension service. With the progressive implementation of the successive plans, it is expected that more such centres will be opened in addition to more public health centres.

Domiciliary, mid-wifery and health visiting services are attended to by both Maternity Assistants and Health Visitors attached to the Primary Health Centres, which are being opened under the Second Five Year Plan for improving the domiciliary services etc., in rural areas.

Orissa—Domiciliary, mid-wifery services were started from the medical colleges. Domiciliary mid-wifery services were done by Madhusudan Matrimangal and Sisukalyan Samiti with its sub-centres and Dais. The whole town of Berhampur and its adjacent villages were served by the Maternity and Child Health Centres and 5 Sub-centres. In all the district headquarters Hospitals Lady Health Visitors, Mid-wives and Dais were engaged by the Maternity Centres for domiciliary mid-wifery. In sub-divisional hospitals also such centres were started and dais do domiciliary mid-wifery. There were Red Cross Maternity Centres in different parts of the State. T.R.W. Maternity Centres in different parts of Keonjhar, Phulbani, Sambalpur, Koraput and other places were doing domiciliary mid-wifery work. Some maternity centres, opened by Orissa Red Cross Society and

Social Welfare Board, were also doing the domiciliary mid-wifery work. The dais attached to dispensaries and the Auxiliary Nurse Mid-wives or Dais of Primary Health Centres were going over to delivery cases. There were 3 Maternity Homes and 25 Maternity and Child Welfare Clinics in urban areas and 10 Maternity and Child Welfare Centres in rural areas of the State, which catered to the needs of expectant mothers satisfactorily.

Punjab—The total number of pre-natal cases attended to during the year under report was 869 and the total number of home visits was 3,178. The children-cum-post-natal clinic continued once a week where mothers got guidance regarding bring up infants and toddlers. During 1960 there were 9 hospitals, two dispensaries and 128 Maternity and Child Welfare Centres functioning in the State.

Rajasthan—68 Maternity and Child Welfare Centres functioned (Government & Private) during the year under report. 22 Maternity and Child Health Wings in Primary Health Centres were opened with as many attached sub-centres as it was possible to do to have the total number of the Maternity and Child Health Wings, attached to the Primary Health Centres, as 113. Constant efforts were made to improve the quality of Maternity and Child Welfare Services by personal contacts and guidance. Greater stress was laid for improvement of domiciliary midwifery and home visits.

To over-come the acute shortage of trained personnel the State was running 7 Centres for Auxiliary Nurse Midwives training having a total of 210 seats. About 80 candidates qualified so far who were posted in rural areas.

One Health Visitors Training School was started at Jodhpur last year. Two Centres for "Integration of Public Health with basic course of Nursing" functioned, wherein 59 candidates were under training. Orientation training in Public Health Nursing was imparted at Jaipur, where 25 candidates had qualified and 65 per cent. of which were posted in Primary Health Centres. 16 Dais Training Centres were running at district headquarters. Efforts were also made to train Indigenous Dais at Primary Health Centres and 16 Centres were started last year. 26 Maternity and Child Welfare Centres and 23 Primary Health Centres were getting aid from UNICEF.

Uttar Pradesh—UNICEF skimmed milk powder Long Range Feeding through Hospitals, Dispensaries, Maternity and Child Health Centres and other Child Caring Institutions, was continued during the year under report. The Uttar Pradesh State Branch of the Indian Red Cross Society, Lucknow distributed multi-vitamin tablets and capsules, cod liver oil and milk, free of cost, to children, expectant and nursing mothers. There were 1,351 Maternity and Child Welfare Centres administered by different organisations viz., State Government, Local and Municipal Boards etc., in the State during the year 1960.

West Bengal—The present policy of State Government is to establish integrated centres under the pattern of "Maternity, Child Health and Family Planning Centre" attached to Hospitals and Health Centres for rendering both Maternity and Child Health and Family Planning Services.

Maternal and Child Health Services were conducted through 339 Maternity and Child Welfare Centres, 482 Health Centres, 7 Maternity Wards, 4 Children Hospitals, 11 Hospitals with Children Wards, General Out-patient Departments of different Medical Institutions etc. There were 4,281 maternity beds available in this State during the year 1960.

Andaman and Nicobar Islands—There is one Maternity and Child Welfare Centre, functioning under the supervision of the Lady Medical Officer, which is attached to the Civil Hospital, Port Blair and is assisted by UNICEF in diet, drugs, etc. Ante-natal and post-natal services were also carried out there. A large number of expectant mothers attended the centre. Here most of the confinements take place in hospitals except where it is not possible otherwise. 5 trained Dais were appointed and posted to different rural areas to provide maternity relief works.

The Lady Health Visitors were also appointed during the year under review.

Two Maternity and Child Welfare Centres were established viz., one at Rangat and the other at Car Nicobar.

Neither any measures were taken for training and registration of Lady Health Visitors Nurses, Nurse-Midwives. A scheme for 25 women in Dais work was included in the Second Five Year Plan of these Islands. So far 14 Dais were trained under the scheme and posted to rural areas to provide maternity relief work.

Delhi—The activities regarding the maternity and child health services in the Union Territory of Delhi may be summarised under the two broad categories of the New Delhi Municipal Committee, New Delhi and the Health Department of the Municipal Corporation of Delhi. The latter is the over all in-charge of all matters relating to health in the entire area of the Territory.

(i) *New Delhi Municipal Committee*—Maternity and Child Welfare Service is run by the New Delhi Municipal Committee under the guidance and supervision of the Medical Officer of Health in respect of the jurisdiction falling within the limits of the New Delhi Municipal Committee. The whole area, in 1960, was divided into 22 areas and each area was under a qualified Lady Health Visitor. There were 14 Maternity and Child Welfare Centres, where clinics were held by four doctors. The services given are of the following nature :

- (1) Ante-natal care.
- (2) Domiciliary Mid-wifery.
- (3) Post-natal care.
- (4) Infant care.
- (5) Toddler care.
- (6) Family Planning.
- (7) Distribution of milk, vitamins and iron to mothers and children according to need.
- (8) Health talks and mother craft classes.

Ante-natal clinics were held once a week where doctors examine every ante-natal case and advice is given accordingly. Follow-up of these cases is done by the Lady Health Visitors at homes once a

month. During the year a total number of 8,135 ante-natal cases were under care.

Domiciliary mid-wifery is done by trained dais and nurse dais under the supervision of the Lady Health Visitors and Doctors. Post-natal care is done for 10 days by Dais, Nurse Dais and Lady Health Visitors at homes. Post-natal check-up is done by doctors in clinics. Family Planning advice and contraceptives are given by doctors to mothers in clinics and the follow-up is done by the Lady Health Visitors at homes.

Well baby clinic is held in every centre once a week, where health of children is checked by doctors and necessary advice is given by doctors. Demonstration on bath, cleanliness, regular habits, diets, preparation of different food etc., are given to mothers.

The statistics of the work done by the Maternity and Child Welfare Centres staff is as follows :

1. No. of confinements conducted by staff	3,743
2. No. of confinements conducted in wards	530
3. Home Visits paid by the Health Visitors	83,168
4. Total No. of clinics conducted at Maternity and Child Welfare Centres	1,738
5. Total attendance at the clinics	156,323
6. Emergency calls attended	322
7. Total No. of health talks by Health Visitors	1,494

(ii) *Municipal Corporation of Delhi*—The Municipal Corporation of Delhi has been rendering Maternity and Child Health Services through 57 Maternity and Child Welfare Centres and 22 Sub-centres by a staff of 157 trained Dais, 72 Lady Health Visitors and 17 Lady Doctors supervised by a Deputy Health Officer. Both types of services, domiciliary as well as institutional were rendered through these centres.

The public has become increasingly conscious of the advantages of using the services of these centres. At Shakti Nagar a 30 bed Maternity Home and at Jawahar Nagar a 12 bed Maternity Home were opened during the year under report. Nine sub-centres were opened in rural areas. The proposal of opening more rural sub-centres was under consideration.

During the year under review 16,919 deliveries were conducted by the Centre staff-giving a 50.85 per cent. of the total of 38,053 births in the Union Territory of Delhi. The maternal mortality among the deliveries conducted by the centre staff was only 0.8 per thousand. The infant mortality rate among the deliveries undertaken by the centres was only 43.5 per thousand as compared with the All India Mortality rate of 124 per thousand.

Home visiting, which forms a vital part of the Maternity and Child Health Services, was done and a total of 261,882 were devoted to home visiting. Expectant mothers and under-nourished children were provided with free supply of UNICEF skimmed milk in all the centres. The clinic attendance during 1960 was 462,409. Training of dais was afforded at 25 Maternity and Child Welfare Centres.

Himachal Pradesh—Three Maternity and Child Welfare Centres were opened during the year under the Second Five Year Plan period. All the Maternity and Child Welfare Centres distributed free UNICEF milk and drugs diet supplements to under nourished children and expectant mothers. Free Family Planning advice and contraceptives were provided in all the Primary Health Centres, Family Planning Centres and Maternity and Child Welfare Centres etc., functioning in this Territory.

Laccadive Islands—Two maternity Centres were established one each at Kadmath and Chetlath during the year under review. These centres functioned under a Maternity Assistant. A Lady Medical Officer was also appointed to supervise the maternity and child welfare activities of the Islands. Training of Island women as Dais was taken up in all dispensaries of the Islands. Dais, who completed their training, were given necessary equipments free of cost. There was a midwife also in every Island, attached to the dispensary/hospital. There were no institutions aided by international organisation in this Union Territory.

Manipur—Since the inception of the maternity services, in this Union Territory, the Lady Health Visitor and the midwife had to face great handicaps in the course of their home visits to persuade the ante-natal and post-natal mothers to attend the clinic. Then the response was very poor. But now the public are conscious and the attendance is increasing gradually year by year.

The statistics of the work done by the Maternity and Child Welfare Centre is as follows:

Categories										First Visit	Revisits
(i) Infants	.	.	.	.	.	.	.	.	.	455	1,267
Mothers	.	.	.	.	.	.	.	.	.	1,409	3,269
Children	.	.	.	.	.	.	.	.	.	302	825
Others	.	.	.	.	.	.	.	.	.	1,043	1,525
(ii) No. of home visits	3,899										
No. of Clinic days	146										

Pondicherry—There were two maternity hospitals, viz., one in Pondicherry and one in Karikal for the care of expectant mothers and children. Besides, two Maternity and Child Health Centres in Pondicherry (rural areas) and one Maternity and Child Health Clinic in Karikal (rural areas) were functioning during 1960.

Tripura—No Maternity Hospital existed under the Council during the year under report. Satisfactory arrangement of bed for the maternity cases was made in the general Hospitals and the Primary Health Centres. Besides, there are 3 Sub-Centres attached to each of the existing 6 Primary Health Centres, which are utilised for rendering pre-natal, natal and post-natal services to the expectant and nursing mothers of the rural areas.

CHAPTER VII

NURSING

1. General Conditions.
2. College of Nursing.
3. Indian Nursing Council.
4. Activities of the States.

(195—202)

NURSING

GENERAL CONDITIONS

There was a general improvement in the nursing services in the country and stress was laid on increasing the facilities for training and raising the standard of nursing education. Both objectives were achieved to some extent. In some of the States a shortage of nurses was felt, though on the whole position of the nursing services was improving during the year under report. There was no shortage, except in a few schools, of candidates applying for admission in the various basic and post-certificate courses. The educational standard of the applicants was also higher and the number of candidates who had passed Intermediate Examination or higher examination was increased. It will be seen from the State reports that there is not much shortage of candidates for existing sanctioned posts.

A Post-Certificate Course in Public Health Nursing was started at Lady Reading Health School, New Delhi, during the year 1960. 4 Refresher Courses on an all India basis were organised by the Directorate General of Health Services, New Delhi with assistance from W.H.O. and UNICEF, for Nursing Superintendents, Sister Tutors and Paediatric Nurses. 100 Nurses participated in these courses. Thirteen Nurses were sent abroad for further training on fellowships awarded by T.C.M., W.H.O., Colombo Plan and the Rockefeller Foundation. Eleven Nurses returned after study abroad as per Table 49.

Valuable assistance was received as in previous years from the international nurses assigned to the different States. 32 nurses were working in W.H.O. assisted Projects including two Nursing Advisers to the States of Madras and Madhya Pradesh. Two Paediatric Nurses in the paediatric projects in Bombay and Madras, two public health nursing teachers for integration of public health in the basic nursing course and 26 in the public health and tuberculosis projects.

Eight nursing experts assigned earlier by T.C.M. for the nursing projects in Rajasthan, Madhya Pradesh, Andhra Pradesh, Indian Red Cross Society, New Delhi and Safdarjang Hospital, New Delhi, continued during the year under report. Three new experts, two for Indore and one short-term consultant, Senior Nursing Adviser to this Directorate, were assigned by the T.C.M. during 1960.

The scheme of training of Auxiliary Nurse-Midwives was continued in 1960. The Central Government paid cent per cent. grants-in-aid to approved private institutions to enable them to meet the additional expenditure involved while 50 per cent. of the recurring and 75 per cent. of the non-recurring expenditure was paid to Government institutions. The recurring expenditure was limited to Rs. 32,100 per annum and non-recurring expenditure to Rs. 7,000 for a unit of 30 students. The target for the Second Five Year Plan period was to train six thousand midwives and auxiliary nurse-midwives. By the end of December, 1960, 2,563 auxiliary nurse-midwife students qualified and about 2,778 were under training. The number of midwives trained in that period was 1,986. This number included trained nurses.

The Government of India continued to give financial assistance to nursing schools for integration of public health in the basic course in nursing. Twenty-five schools (18 Government and 7 private) were approved by the Government upto 31st December 1960.

Table 50 shows the number of nursing schools, number of students for basic and post-certificate courses and the Table 51 gives the number of nurses employed in the States and Union Territories. Table 52 indicates the nursing staff, bed ratio and nursing staff and population ratio in different States.

COLLEGE OF NURSING

The following courses were continued during the year under report in the College :

- (1) B.Sc. (Hons.) in Nursing.
- (2) Nursing Administration Course.
- (3) Sister Tutors Course.
- (4) Midwife Tutors Course.
- (5) Ward Sister Course.
- (6) Master of Nursing Course.

A Technical Advisory Committee of the College of Nursing, appointed to advise the College authorities on the technical matters, met once during the year under report.

During the year the total number of B.Sc. (Hons.) Nursing students and Masters' Nursing students was 122. Out of this number 121 appeared in the University Examination and 115 were declared successful. There were 122 students in the College for degree classes on 1st November, 1960. These students came from all parts of India.

The number of teachers on the College staff was 39. In addition to these, about 50 external lecturers from specialised fields were appointed to teach the students on various subjects during the year under report. Dr. (Miss) K. Bose and Mrs. P. Jain were promoted to the posts of Senior Lecturers in education and senior tutor in public health nursing respectively.

The students were assigned to the wards of Irwin and Safdarjang Hospital, New Delhi, the All India Institute of Medical Sciences, New Delhi, T.B. Hospital, Mehrauli and the Victoria Zangana Hospital, Delhi for practical training.

A workshop on nursing research was held in the College of Nursing, New Delhi, which was arranged by the Trained Nurses Association of India and the College of Nursing, 20 Nursing Officers from various States took part in it.

The Child Guidance Clinic continued its useful services in and around Delhi during the year covered by this report. The Clinic provides services free of charge for guidance to children and their

parents on psychological problems and also publishes pamphlets in Hindi and English on "Child Care and Mental Hygiene". The research work on 'Child Rearing Practices as Antecedent to Behaviour Problems' has been completed and has been accepted by the Indian Council of Medical Research. A research proposal which was approved by the National Council for Education of the handicapped has been finally accepted by the Government of India and it will be presented to the Indian Council of Medical Research for financial assistance in due course.

The College library contained 8,460 books from professional or related fields and also books of more general nature and fiction. The College spent Rs. 13,000 on purchase of new books and periodicals during 1960-61. 256 books were added, 55 magazines subscribed during the year 1960-61.

On the whole discipline has been very satisfactory. The students of the College have got their own Association and College Union which looks after their entertainment, games, social welfare and the other extra curricular activities. The College students raised funds for T.B. patients and Trained Nurses Association of India through variety entertainments.

The Government made a budget grant of Rs. 4,42,950 for the College expenses and the total income of the College during the year was Rs. 5,43,888. The expenditure during the year came to Rs. 5,43,788.

INDIAN NURSING COUNCIL

The Council appointed 31 inspectors for inspecting nurses training institutions in different parts of the country. The Inspectors inspected 57 nurses training schools during the year under report.

The work of compilation of the Indian Nurses Register which was started in August, 1959 was continued progressively. About 10,000 cards for nurses etc., enrolled on the State Registers were prepared and checked.

During the year the Council approved for registration in India 57 non-Indian and four Indian nurses having foreign qualifications. By the end of the year under report, 80 non-Indian and 15 Indian Nurses with foreign qualifications were approved for registration with State Nursing Councils in India.

The Council collected information on Nurses Training Schools, the number of nurses etc., qualified and registered during the year 1959. It was found that there was an improvement in the educational standard of students but working hours continued to be long.

An agreement was signed with the W.H.O. for obtaining the service of nursing expert for preparing a curriculum guide for the nursing course.

ACTIVITIES OF THE STATES

The activities of the nursing services in the various States/Union Territories of India are summarised below:—

Andhra Pradesh—The number of nursing staff was increased by 10 per cent. because of an increase in bed strength.

The ratio of nurses to population was 1:24,421 and nurses to beds was 1:8.

New quarters were constructed but there was still a shortage of accommodation. Wherever possible private houses were rented to house the Nurses.

Six refresher courses were conducted by the State Government in which 96 Nurses participated. Four Nurses were deputed to take the public health nursing course at the All India Institute of Mental Health, Bangalore and four Nurses were deputed to take the psychiatric nursing course. Two Nurses were awarded T.C.M. fellowships and deputed for study abroad.

Assam—The budget allotment and expenditure in nursing services and nursing education is shown below :—

	Budget
	Rs.
I. General	
(i) Normal	1,55,019
(ii) Plan	70,000
II. Expenditure	
(i) Normal	1,15,677
(ii) Plan	53,188

The ratio of nurses to population was 1:29,907 and to hospital beds 1:7. There was a shortage of residential accommodation for Nursing staff and students throughout the State. Public Health Nursing has been introduced in the Nursing Course at the Ganesh Das Hospital, Shillong and M. C. Hospital, Dibrugarh.

Public Health Orientation and Refresher Courses were given at the Chabua Rural Health Centre to 10 Nurses and 7 Auxiliary Nurse-Midwives.

Family Planning training was given to Nurses, Auxiliary Nurse-Midwives and Health Visitors at the Lady Kerr Welfare Centre, Shillong. Two men Nurses were deputed to take the course in psychiatric Nursing and two Nurses were deputed to Delhi for refresher course.

Gujarat—No separate figures for budget for nursing services were maintained in the State.

The ratio of nurses to population was 1:33,500 and to hospital beds 1:7.

Housing accommodation is provided in many places by Government buildings or by temporarily renting of buildings. A phased construction programme for staff quarters at Primary Health Centres headquarters is undertaken to improve housing facilities during the Third Five Year Plan period for which Rs. 25 lakhs were provided in the budget. A Refresher Course for nurse midwives and health visitors in-charge of domiciliary training of auxiliary nurse midwifery students was held at the Health Unit, Bavla, 39 Nurses of the State attended the course. A Refresher Course for midwives working in

Primary Health Centres was attended by 15 candidates. 2 Nurses were deputed for the Public Health Nursing Course at Lady Reading Health School, Delhi and one Nurse to the All India Institute of Hygiene and Public Health, Calcutta. One nurse was sent abroad for a Masters' Course in Public Health Nursing Administration at University of North Carolina, U.S.A. 7 candidates returned after training from abroad.

Kerala—Shortage of Nurses continued during the year under report. The budget provision and expenditure on nursing establishment were as follows :—

Funds allotted	Rs. 5,01,000
Expenditure	Rs. 4,31,000

The ratio of nurses to population was 1:17,200 and nurses to beds was 1:14.

Adequate hostel accommodation was provided for all nursing students and nurses accommodation in all major hospitals. Post-certificate Course in Nursing and Diploma Course in Nursing were instituted at the School of Nursing, Trivandrum. Twenty four Nurses, who have had no midwifery training, were deputed to undergo the midwifery course. Short term refresher course was given to 4 Nursing Superintendents in the Lady Hardinge Medical College Hospital, New Delhi. Refresher Course in Paediatric Nursing was given to two staff Nurses at the Government General Hospital, Madras. A male Nurse was deputed for the V.D. workers Intensive Refresher Course at the Safdarjang Hospital, New Delhi. A Refresher and Public Health Orientation Course of 4 weeks duration for 50 senior midwives was conducted. Three Nurses were deputed for post-certificate courses. Two sister tutors were deputed under the Colombo Plan, one for advanced course in Public Health Nursing in U.K. and the other for the advanced course in nursing education and administration in Canada.

Madras—68 additional posts in the nursing service were sanctioned. One head Nurse was deputed to undergo a post-certificate course for midwife tutors at the College of Nursing, New Delhi. Four staff nurses were deputed to undergo public health nursing course at the All India Institute of Hygiene and Public Health, Calcutta. 5 staff Nurses were trained in Paediatric Nursing at the course held in the Government General Hospital, Madras with the UNICEF assistance. 2 Nursing Superintendents and one nursing tutor deputed to take a short term refresher course for Nursing Superintendent at the Lady Hardinge Medical College and Hospital, New Delhi and short term refresher course of nursing tutors in the King George Hospital, Visakhapatnam.

One staff nurse was deputed to undergo training in Neuro-Surgical Nursing at Melbourne under the Colombo Plan. One staff nurse was also deputed to undergo training in tuberculosis nursing, a Nursing Superintendent was deputed to New Zealand on a W.H.O. fellowship to study advanced nursing administration.

The ratio of nurses to population was 1:4,000 and ratio of nurses to beds was 1:8 in non-teaching hospitals and 1:15 in teaching hospitals.

Free accommodation was provided for the nursing staff in the major institutions. Wherever quarters were not built, private houses were rented at Government cost.

Refresher Courses were conducted for the benefit of the head nurses and staff nurses of this State in 4 centres allotting 20 candidates for each centre. All nurses, who were deputed for these courses were all absorbed in their special fields of nursing.

Maharashtra—The bifurcation of the Old Bombay State into separate States of Maharashtra and Gujarat took place on 1st May 1960.

Government sanctioned Rs. 21,000 for providing equipment to 3 training centres. The Dufferin Fund granted Rs. 4,600 to supplement recreational amenities in nursing schools.

The ratio of nurses to population was 1 : 13,812 and the ratio of midwives to population was 1 to 87,787 and of health visitors 1 to 197,521 population. The ratio of nurses to beds was 1 : 5.

Quarters were constructed for 125 nurses and buildings to house nurses were hired in 15 places. There was still a general shortage of accommodation for nurses.

During the course of the year five new schools for training of auxiliary nurse-midwives were opened. 9 Nursing Tutors were appointed. About 26 candidates were deputed for different courses in the State. 2 refresher courses for Nurses were conducted by the State Government, 2 Nurses for training in tuberculosis were deputed by the State Government under the Colombo Plan to Australia and one Nurse for Masters' Course in public health nursing was deputed under Colombo Plan to Canada. A departmental course to train and employ 15 tuberculosis health visitors annually is being conducted in the State. A College of Nursing affiliated with the University of Bombay was opened in June, 1960 to admit 25 students annually for the four year B.Sc. Nursing Course.

Orissa—There was a shortage of nursing staff in general during the year under report.

A sum of Rs. 1,08,460 was sanctioned by the State Government for the purpose of training.

The ratio of nurses to population was 1 : 54,922 and to hospital beds 1 : 13.

Free furnished quarters for the nursing personnel were provided where such facilities exist. Where there is no residential accommodation for nursing personnel, they are being paid 10 per cent. of the pay as house rent subject to a minimum of Rs. 10. A rural training centre was opened at Jagatsinghpur under the supervision of the W.H.O.

Punjab—No special grant for improving nursing conditions in the State was given during this year under report.

The mid-year estimated population of the State as it stood on 0th June, 1960 was 1,80,69,682. The total number of beds as on 1st December, 1960 are given below:—

Description	Beds
(i) Hospitals	5,278
(ii) Dispensaries	950
(iii) Primary Health Centers	1,279

The nurses hostel, attached to V.J. Hospital, Amritsar, remained under construction during the year under report. The question of building nurses quarters was referred to the Chief Engineer, Punjab P.W.D., Patiala.

Refresher Courses for the sister tutors and matrons-in-charge of civil hospitals, which were training auxiliary nurse midwives, were conducted by the W.H.O. nursing adviser to Punjab Government. Two scholarships of Rs. 75 per month each for 4 years for undergoing B.Sc. nursing course at the College of Nursing were granted. One Nursing Superintendent of Rajendra Hospital, Patiala was deputed for undergoing training in New Zealand in nursing administration course on W.H.O. fellowship.

Rajasthan—New training centres were opened in Government hospitals.

There is no separate budget for nursing staff. Expenditure on nursing services is met from the general budget. The ratio of nurses to population was 1:2,915 and to hospitals bed 1:5. Arrangement for hostel accommodation was not adequate in the State.

No refresher course was held during the year under report. Two women nurse were deputed for public health nursing course at Calcutta. No nurse from this State was sent abroad on fellowship during the year under report.

West Bengal—Net amount of funds allocated for the year 1960 for improvement and establishment of nurses training was Rs. 346,000. Special grants were given to two private institutions, viz., Islamia Hospital, Calcutta and Charteris Hospital, Kalimpong totalling Rs. 38,958 for nursing training.

The ratio of nurses to population was 1 : 5,361 and to hospitals bed 1 : 12.

The attempt is made to accommodate all nurses in the quarters attached various hospital in Calcutta and the districts but due to paucity of quarters it has not been possible to accommodate every one. In all hospitals of the State, therefore, a certain percentage of nurses are living out. Extension of nurses quarters has taken place in Burdwan while new nurses quarters have been built in Malda Town, Balurghat and Raiganj.

Constructions of nurses quarters were started in Suri, Jhargram, Jalpaiguri district and Katwa, Burdwan district. Further expansion of nurses quarters could not take place in the general hospitals due to paucity of land.

10 students were deputed for the B.Sc. Course, Nursing and 3 for the certificate in teaching in the College of Nursing, New Delhi. A senior Nursing Superintendent of West Bengal Nursing Service was sent to Toronto, Canada for obtaining Diploma in Nursing Administration under Colombo Plan. One senior sister went to London for obtaining Diploma in teaching at her own expense. 2 Staff Nurses went to England for training in plastic surgery also at their own expense. 2 Sisters returned from England after training in plastic surgery. They were posted back in the plastic Surgery Unit of Seth Sukhlal Karnani Memorial Hospital.

Andaman & Nicobar Islands—Shortage of nursing staff continued during the year under report. No separate funds were allotted for the nursing services. The ratio of nurses to population was 1:3,000 and nurses to bed 1:6.

Accommodation is provided for all trained staff recruited from mainland and to the local candidates on transfer to rural areas. The local recruits are not entitled to any quarters on appointment and posting in headquarters area.

Delhi—Two new schools for nursing training were opened in the Safdarjang Hospital, New Delhi and Hindu Rao Hospital, Delhi during 1960.

One Refresher Course for Nursing Superintendent was held at the Lady Hardinge Medical College and Hospital, New Delhi with W.H.O. assistance.

Only one nurse from Safdarjang Hospital, was sent abroad on T.C.M. fellowship in September, 1960.

Himachal Pradesh—There was an over-all shortage of the various categories of the nursing staff in the State, during the year under report. There is no separate budget for the nursing services. The ratio of nurses to population was 1:7,000 and ratio of nurses to bed was 1:7. Sufficient hostel accommodation is provided to all the trained staff and students in the hospitals.

Manipur—During the year under report there was a shortage of nursing staff in this Territory. The ratio of nurses to population was 1:32,430 and nurses to bed was 1:13. Accommodation was provided to the auxiliary nurse midwife trainees. A nurses Home is under construction at Imphal.

Tripura—No separate budget allotment is made in respect of the nursing services. The ratio of nurses to population was 1:7,137 and ratio of nurses to bed was 1:2. Hospital accommodation is available for nursing staff as well as for student nurses but the accommodation is not adequate. 2 candidates were deputed to take the B.Sc. (Hons.) Nursing Course.

Laccadive, Minicoy and Amindive Islands—Budget estimates for the year under report was Rs. 2,520. The ratio of nurses to population was 1:2,500 and nurses to bed was 1:10. The quarters for the medical staff of this Territory were provided by this Administration.

CHAPTER VIII

1. Medical Education
2. Medical Council of India.

(203—218)

MEDICAL EDUCATION

Prior to independence the control of hospitals and the medical education institutions was the responsibility of the heads of the medical services whose primary responsibility was medical relief. The requirements of the expansion of medical education were subordinated to the needs of medical relief. The result of this was reflected in the very little output of research and almost complete absence of any significant contribution to western medicine made by the Medical colleges in India. For teaching of modern medicine in 1946, there were 19 medical colleges besides 19 medical schools. All these medical schools except Arya Medical School, Ludhiana have either been upgraded or closed down.

At the end of 1959 the number of medical colleges was 55 and during the year under report the following new medical colleges were established:

1. The College of Medical Sciences, Varanasi.
2. The Medical College, Rohtak.
3. The Gauhati Medical College, Gauhati.
4. Sri Venkateswara Medical College, Tirupathi.
5. The Kilpauk Medical College, Kilpauk, Madras.

There has been a very great expansion of Medical education during the last decade and the number of medical colleges rapidly increased. This process itself created many problems which demanded urgent solution and for this purpose the first conference of Deans and Principals of medical Colleges in India was held in New Delhi in September, 1960 under the auspices of the Government of India, Ministry of Health.

The Health Survey and Development Committee in their 1946 report strongly recommended the establishment of more high grade medical institutes at a national level primarily intended to train up the future professors, and to augment facilities for imparting post-graduate studies in the existing institutions. The number of medical colleges rose from 29 in 1950 to 60 in 1960, and the number of students admitted to M.B.B.S. course rose from 2,675 to 5,874. During 1960, 5,874 students were admitted in 1st year M.B.B.S. course and 3,387 students graduated.

The following table will show the number of medical colleges, number of students admitted and the number passed from 1947 to 1960:—

Year	No. of Medical Colleges	Number admitted	Number passed
1	2	3	4
1947	25	1,983	959
1948	28	2,811	1,170

1	2	3	4
1949	29	2,609	1,550
1950	29	2,675	1,557
1951	30	2,489	1,695
1952	30	2,691	2,164
1953	33	2,846	2,299
1954	35	3,087	2,582
1955	41	3,660	2,743
1956	46	3,958	2,732
1957	48	4,098	2,802
1958	51	4,479	2,859
1959	55	4,904	3,119
1960	60	5,874	3,387

Reservation of Seats :

According to the existing arrangement 69 seats were reserved in M.B.B.S. course in certain medical colleges in India for the students belonging to the Union Territories and wards of the Central Government servants serving in Indian Mission abroad. Out of these, 63 seats were utilised during 1960. Further, 39 seats in regular M.B.B.S. course were reserved for the nominees of the Government of Jammu and Kashmir during the year under review.

The All India Institute of Medical Sciences has been established at Delhi where a 4½ year under graduate course leading to the Degree of M.B.B.S. and a 2 years Post-graduate training course for the post-graduate Degree (M.Ch.Ortho.) in Orthopaedic surgery was started in 1956. Every year 50 students are admitted to M.B.B.S. course. During 1960, the Institute had on its rolls 69 students including 48 women students and 11 foreign students (5 from Nepal, 1 from Fiji, 3 from Malaya, 1 from Cameroons and 1 from South Africa).

Now facilities for post-graduate training are provided in the subjects of Anatomy, Physiology, Pharmacology, Biochemistry, Pathology, Bacteriology, Anaesthesiology, Paediatric, Medicine, Surgery, Ophthalmology etc. 50 students were admitted to the post-graduate courses in different specialities in 1960. The teaching staff of the Institute have undertaken research and studies in several important fields.

The number of Post-graduates in the different departments of Lady Hardinge Medical College and Hospital, New Delhi was 81 as compared to 48 in the previous year. List of Medical Colleges/Institutions in different States in India for Post-graduate degrees/diplomas courses is given in Table No. 53.

Statewise distribution of students admitted and passed from different Medical Colleges in India during 1960 is shown in Tables Nos. 54 and 55 respectively.

The scheme for establishment of new medical colleges and expansion of the existing ones was included in the Second Five Year Plan, with plan provision of Rs. 6.5 crores.

Central assistance for Expansion :

Originally it was decided to offer Central financial assistance for the establishment of 9 medical colleges and for the expansion of 13 medical colleges for increasing their number of annual admissions upto 100. Subsequently, it was decided that the number of admission in the medical college should be increased upto 150 and the entire extra expenditure required for increasing the number of admission to the medical colleges from 100 to 150 should be met by the Central Government. In pursuance of this decision, 7 medical colleges have been offered financial assistance during 1959-60 and 1960-61. As a result of the subsequent decision to assist a large number of medical colleges, the Plan provision of Rs. 6.5 crores were likely to be exceeded by about Rs. 4 crores.

Medical Man-powers :

A planning Committee was established to plan the medical manpower requirement of the country and to regulate the establishment of new medical colleges, and expansion of the existing ones. The number of Doctors at the end of the year under review was nearly 77,000. A majority of this number was concentrated in cities and urban towns. The Doctor/Population ratio worked out to 1:5,701 during the year 1960.

With a view to giving post-graduate training to the selected doctors and render them fit for teaching and research work, the Scheme for upgrading of certain departments in medical colleges and research institutions in the country has made notable progress. The number of seats available in these upgraded departments during 1960-61 were as follows:—

Courses 1	Number of seats 2
1. G.D.C.	24
2. M.D. (Midwives)	6
3. M.S. (Gynaecology)	4
4. D.V.	12
5. D.R.	10
6. Anatomy	4
7. D.C.H.	12
8. M.D. (Pathology and Bacteriology)	12

Courses 1	Number of seats 2
9. D.P.H.	12
10. D.M.P.	12
11. Cancer	4
12. D.T.D.	2
13. Research in T.B.	2
14. Thoracic Surgery	3
15. Plastic Surgery	4
16. History of Medicine	4
17. Neuto Surgery	2
18. C.R.A.	15
19. D.R.A.	4

Teaching of Social and Preventive Medicine :

The concept of social and preventive medicine has been lately introduced in medical curriculum. During the Second Plan Rs. 25.00 lakhs were provided for the Scheme. 18 medical colleges, list of which is given in Table No. 56 have so far been approved for the establishment of the Department of Preventive and Social Medicine with central assistance. The project is being assisted by the World Health Organization who are providing WHO Professors for assignment to the medical colleges.

Fellowships :

(a) During 1960, 150 candidates were awarded fellowship who proceeded abroad on fellowships. The subjects of training offered by different foreign Governments and international agencies are given in Table 57. The States Government etc. are asked to recommend the names of suitable personnel employed under them or under other bodies—semi-government institutions or non-Government Voluntary organisation within their jurisdiction, provided that (i) they consider the training of the recommended candidates essential keeping in view their requirements for trained personnel for their various schemes; and (ii) guarantee that the services of the candidates will be suitably utilised on their return from abroad. Selection are made, thereafter, by the Central Selection Committee which draws a panel of the selected candidates for the award of the fellowship. The award of fellowships is restricted to the candidates included in the panel.

Inspite of the fact that we are ourselves short of trained medical personnels, facilities for higher training in medical and allied subjects in India, are also being provided to the foreigners with a view to promoting international aminity, co-operation and cultural exchange and to provide the badly required technical assistance to the under developed countries to keep them attain higher medical standards.

A statement giving the number of foreign scholars fellows who came to India for training and study in different subjects for different countries during 1960 is given in Table 58.

MEDICAL COUNCIL OF INDIA

The Medical Council of India ever since its inception was charged with:

- (i) The establishment of a uniform minimum standard of higher qualifications in medicine for all the provinces,
- (ii) The recognition of medical qualification in States and countries outside India, and
- (iii) To ensure that the standard of under-graduate and post-graduate medical education was maintained during the period of rapid expansion in the colleges and universities in India.

The Medical Council of India was reconstituted on the 6th February, 1960 under the Indian Medical Council Act, 1956.

An up-to-date copy of each of the First and Second Schedule indicating specifically Medical Degree recognised during 1960 and Part I and II of the Third Schedule to the Indian Medical Council Act, 1956, relating to 1960 is given in Tables 59, 60, 61 and 62.

The following medical qualifications were included in the First Schedule to the Indian Medical Council Act, 1956 during the year 1960:—

M.S. (Anatomy)	Lucknow University
M.S. (Orthopaedics)	Ditto.
M.S. (Ophthalmology)	Ditto.
M.S. (Obstetrics & Gynaecology)	Ditto.
M.S. (E.N.T.)	Ditto.
M.D. (Physiology)	Ditto.
M.D. (Pharmacology)	Ditto.
M.D. (Pathology)	Ditto.
D.L.O. (Diploma in Laryngology and Otology)	Ditto.
D.G.O. (Diploma in Gynaecology and Obstetrics)	Ditto.
D.M.R.E. (Diploma in Medical Radiology and Electrolgy)	Ditto.
D.O.M.S. (Diploma in Ophthalmic Medicine and Surgery)	Ditto.
D.C.P. (Diploma in Clinical Pathology)	Ditto.
M.D. (Medicine)	Agra University.
M.D. (Pathology)	Ditto.
M.D. (Pharmacology)	Ditto.
M.S. (Ophthalmology)	Ditto.
M.S. (Surgery)	Ditto.
M.S. (Obstetrics and Gynaecology)	Ditto.
M.D. (Physiology)	Ditto.
M.S. (Anatomy)	Ditto.
D.O.M.S. (Diploma in Ophthalmic Medicine and Surgery)	Ditto.

M.B.B.S. (Bachelor of Medicine and Bachelor of Surgery)	Vikram University.
M.D. (Pharmacology)	Ditto.
M.D. (Medicine)	Ditto.
M.D. (Pathology)	Ditto.
M.D. (Physiology)	Ditto.
M.S. (General Surgery)	Ditto.
M.S. (Ophthalmology)	Ditto.
M.S. (Anatomy)	Ditto.
M.S. (Obstetrics and Gynaecology)	Ditto.
T.D.D. (Diploma in Tuberculosis Diseases)	Ditto.
D.M.R.E. (Diploma in Medical Radiology and Electrology)	Ditto.

(i) During the year 1960, the Council recommended the following qualifications for inclusion in the First Schedule to the Indian Medical Council Act, 1956, to the Central Government, in respect of the Medical College(s) noted against each:—

M.Sc. (Pathology)	(T.N., Seth G.S., and Grant Medical College, Bombay).	Bombay University.
M.D. (Obstetrics and Gynaecology).	(Medical College, Amritsar)	Punjab University.
M.D. (Pharmacology)	Ditto.	Ditto.
M.S. (Anaesthesia)	Ditto.	Ditto.*
D.A. (Diploma in Anaesthesia)	(Medical College, Baroda)	Baroda University.
M.D. (Pharmacology)	(Andhra Medical College, Visakhapatnam).	Andhra University.
M.D. (Bacteriology including Pathology).	Ditto.	Ditto.
D.C.H. (Diploma in Child Health)	(Medical College, Agra)	Agra University.
M.D. (Pathology)	(Darbhanga Medical College, Laheriasarai).	Bihar University.
M.S. (Anatomy)	Ditto.	Ditto.
M.D. (Medicine)	Ditto.	Ditto.
M.S. (Surgery)	Ditto.	Ditto.

(ii) The Council recommended the entry in the Second Schedule in respect of University of Melbourne (Victoria) be amended as follows:—

M.B.B.S.

M.D.

M.S.

(iii) The Council recommended that the following qualifications be included in Part II of the Third Schedule :

M.B.B.S. (Karachi).

M.B.B.S. (Sydney, New South Wales, Australia).

M.D. (Minnesota, U.S.A.).

M.D. (Geneva, Switzerland).

(iv) "Doctoris in Medicina et Chirurgia (Diploma) (Santo Tomas University, Manila, Philippines)".

(v) Change of the title of the Diploma from "Licentiate Diploma awarded by the Medico-Surgical College of Nova-Goa" to "Medico-Surgeon (Goa)".

Under-graduate Inspections :

During the year under review, inspections were carried out at the following centres :

- (i) Vikram . . . (Gandhi Medical College, Bhopal).
- (ii) Kerala . . . (Medical College, Trivandrum).
- (iii) Agra . . . (Medical College, Agra).
- (iv) Bombay . . . (T.N., Seth G.S. and Grant Medical College, Bombay).
- (v) Lucknow . . . (Medical College, Lucknow and G.S. V.M. Medical College, Kanpur).
- (vi) Madras . . . (Partly carried out in 1959) (Vellore, Madurai, Stanley and Madras).
- (vii) Mysore . . . (Medical Colleges, Mysore and Bangalore).
- (viii) Nagpur . . . (Medical College, Nagpur).

Visitations :

Kurnool Medical College, Kurnool (Sri Venkateswara University).

Post-graduate Inspections :

D.M.R.E.	(Medical College, Agra)	Agra University
D. M. C. W.	(Chittaranjan Seva Sadan)	Calcutta University.
M.D. (Medicine)	(Lady Hardinge Medical College, New Delhi).	Delhi University.
M.Sc. (Anatomy)	Ditto.	Ditto.
M.S. (Surgery)	Ditto.	Ditto.
M. D. (Obstetrics and Gynaecology).	Ditto.	Ditto.
Ph.D. (Pathology)	(B.J. Medical College, Poona)	Poona University.
M.S. (Ophthalmology)	(S.M.S. Medical College, Jaipur)	Rajasthan University.
M.Sc. (Pharmacology)	Ditto.	Ditto.

M.D. (Medicine)	. . .	(G.S.V.M. Medical College, Kanpur).	Lucknow University
M.D. (Physiology)	. . .	Ditto.	Ditto.
M.D. (Pathology)	. . .	Ditto.	Ditto.
M.S. (Surgery)	. . .	Ditto.	Ditto.
M.S. (Anatomy)	. . .	Ditto.	Ditto.
M.S. (Orthopaedic)	. . .	Ditto.	Ditto.
M.S. (Ophthalmology)	. . .	Ditto.	Ditto.
D.O.	. . .	(Medical College, Nagpur)	Nagpur University
M.Sc. (Anatomy)	. . .	Ditto.	Ditto.
M.S. (Surgery)	. . .	Ditto.	Ditto.
M.O.	. . .	Ditto.	Ditto.
M.D.	. . .	Ditto.	Ditto.

The Medical Council of India, accepted the following report of the Sub-Committee as accepted by the Executive Committee :

"The question of starting post-graduate courses and examinations in a Medical College is an independent proposition and is not necessarily connected with the full functioning of a Medical College. A college may have been fully established but still there may not be adequate facilities for post-graduate training. A Medical College where post-graduate training has to be introduced must have sufficient accommodation, necessary equipment and suitable and adequate staff. In the case of clinical subjects there should be also a good Hospital with good laboratory and other diagnostic facilities. The Hospital must also have a good record system. If the above are available, there is no reason why post-graduate training cannot be started in any Medical College irrespective of its standing. A good example is the All India Institute of Medical Sciences where both under-graduate and post-graduate training programme started simultaneously. The Medical Council may prepare standard requirements for post-graduate training in each speciality including the number of staff and their qualifications. Due care has also to be taken regarding the number of students to be admitted for post-graduate work in any department or speciality. Over-crowding has to be avoided in a department which is under-staffed and not fully equipped to accommodate a large number. When a college seeks recognition for post-graduate work, the Council should send its Inspectors or Visitors to find out the extent of facilities available at the College. If a college has deficiencies for under-graduate training in any department, no post-graduate training should be allowed in that department. While inspecting colleges for post-graduate training, stress should be given in the report as to the adequacy of the number of staff and of their qualifications and teaching experience keeping in view the number of students to be

admitted. In addition special stress should also be laid on the facilities for research that the Institution can offer to the post-graduate students. Only those departments where adequate facilities by way of equipment, animals, grants etc. exist should be considered for recognition for post-graduate training."

The Council appointed a Sub-Committee consisting of Drs. B. Narayana, R. V. Sathe and Major K. N. Rao to make recommendations with regard to (a) List of Hospitals for Internship and (b) Scheme for Post-Examination Training.

The Council approved the following recommendations of the Registration Sub-Committee as accepted by the Executive Committee :

"After detailed discussion of the practical training to be undergone under Section 13(3) of the Indian Medical Council Act, 1956, the Registration Sub-Committee recommends that the practical training should be 'experience under guidance' in the practical of Medicine, Surgery, Obstetrics and Gynaecology for a total period of one year either separately or concurrently in a recognised teaching or non-teaching institution or its equivalent in a foreign country. Such experience in the practice of Preventive and Social Medicine for a maximum period of three months may be deemed equivalent to the experience for the same period described above.

As regards the certificate to be submitted, the Sub-Committee recommends that the certificate showing details of training, the institution in which the training is undergone, nature of the guidance and such other details as may be necessary should be submitted duly signed by the Medical Officer-in-charge of the Institution and certified by the Head of the Medical Department of the State. [Subsequently, the Council accepted the suggestion of the Central Government that they are of the view that a certificate of practical training signed by Medical Officer-in-charge of the Institution (except doubtful cases) from where the candidate obtained the training should be sufficient for purposes of Registration under Section 13(3) of the Indian Medical Council Act, 1956, in any case where there is a doubt the Council may address the institution issuing the certificate and find out all details in needs]".

The Council adopted the following resolution of the Executive Committee :

"The Executive Committee considered the question of adoption of a definite uniform procedure to be followed by all the State Medical Councils with regard to the list of provisionally registered medical practitioners under Section 25 of the Indian Medical Council Act, 1956 and decided that the names of provisionally registered medical practitioners be borne on a separate list maintained for the purpose and should not be included in the State Medical Registers and the All India Medical Register."

The Council accepted the recommendation of the Executive Committee in the following forms:

- (a) That the certificates awarded by the various approved speciality boards in U.S.A. may be considered as sufficient post-graduate qualifications for purposes of appointment of teachers in Medical Colleges when held by Indian Nationals, provided the holders of such qualifications possess a basic registrable qualification included in the first Schedule to the Indian Medical Council Act, 1956 and provided requisite teaching experience is available.
- (b) That the F.R.C.S. or F.R.C.P. of Canada is by examination which consists of theory, clinical and Viva, may be considered like F.R.C.S. of England, Ireland or Edinburgh or M.R.C.P. of London, Edinburgh or Ireland provided the holder of such qualifications possesses a basic registrable qualification included in the First Schedule of the Indian Medical Council Act, 1956; provided further that candidates possess requisite teaching experience. But the certificate qualifications of the Canadian Boards are not of such sufficient standards as F.R.C.S. This can be given equivalent status to the Diploma qualifications like D.L.O., D.O.M.S. etc.
- (c) That the qualifications M.S., M.Sc., and M.A. are given to foreigners after taking up fellowship for a period of one or two years and after examination these degrees of the approved Universities are granted. There is no clinical examination or Viva but only Thesis. As such these may be considered suitable qualifications like D.L.O., D.C.H., and D.C.P. for clinical or non-clinical subjects but not for teaching appointments.
- (d) That the Ph.D. or D.Sc. of approved American Universities may be considered as suitable for teaching appointments in Medical Colleges.
- (e) That F.A.C.S. is a controversial diploma. There is no examination for F.A.C.S. except recognition of candidates by the American College of Surgeons on the work and professional experience and position of the candidate. This is usually awarded to Indians who are already Professors in various Universities and who possess qualifications like M.S. or F.R.C.S. etc. However in exceptional cases the F.A.C.S. is awarded to persons who do not possess other post-graduate qualifications in recognition of their professional capability and experience. In such cases, it is for the Council to assess the individual candidate's merits in recommending for teaching appointments.

The Council adopted the following resolution :

"In view of the fact that the Medical Licentiate Course is still being continued in one of the Medical Schools in the Punjab and in view of the reports in the Press about the proposed revival of the Licentiate Course in some States, this Council recommends to the Government of India that Part I of the Third Schedule to the Indian Medical Council Act, 1956

should be so amended that the qualifications mentioned in that Schedule should be recognised and registrable only if obtained before 1965."

The Council accepted the following recommendation of the Executive Committee :

"The Executive Committee reiterated the previous decision of the Council that in order to distinguish between the approved and unapproved medical colleges affiliated to one and the same University, it is necessary that names of the Medical Colleges where the students are trained are included in the Schedules to the Indian Medical Council Act, 1956, and that the Central Government may be approached to amend the Act, suitable."

The Council adopted the following recommendation of the Executive Committee :

"This meeting of the Medical Council of India hereby delegates to the President of the Council the following Power :

The President may act on behalf of the Council on matters pertaining to the Registration of Indian Nationals holding foreign medical qualifications included in Part II of the Third Schedule, as envisaged by Section 13(3) of the Indian Medical Council Act, 1956."

State Activities :

In addition to the activities of the Central Government and of the Medical Council of India towards rapid expansion of the Medical Education in the country, the activities of the State Governments in respect of Medical Education were also in no way less during 1960. The important features in this connection in different States are summarised below:—

Andhra Pradesh—Under the Medical Educational Programme all the Medical Colleges were upgraded. There were 8 Medical Colleges functioning in Andhra Pradesh during 1960. The annual admissions to existing medical colleges were increased from 250 in 1955 to 410 in 1960. Efforts were continued to maintain and improve the standard of medical education. In Medical Colleges, Visakhapatnam, Guntur and Hyderabad, facilities were provided for study of Post-graduate degree and diploma courses in various branches of medicine. Medical education in Osmania Medical College, Gandhi Medical College, Guntur Medical College, Kurnool Medical College and Andhra Medical College was made comprehensive by providing full-time departments in each subject.

As far as Para-medical Education is concerned, there were 7 Nurse Training Centres, and 14 Maternity Assistant Training Centres, and 16 Auxiliary Nurses-Midwives Training Centres by the end of 1960.

Assam—The Assam Medical College, Dibrugarh continued to function as in the previous year. No Post-Graduate M.D. course in the Assam Medical College has been started. The equipment and facilities for teaching were adequate in the college. Training in Pharmacy was imparted in the B.W. Medical School, Dibrugarh. Training in Sanitary Inspectors Course was conducted in the Rural Health Training Centre,

Chabua, under the department of Social and Preventive Medicine, Assam Medical College, Dibrugarh. Training in Nursing and Midwifery was imparted in the various hospitals of the State apart from that being given in Assam Medical College, Dibrugarh and also in some Missionary hospitals.

The Gauhati Medical College, Gauhati with an admission capacity of 100 was established during the year 1960. Thus the total number of medical colleges in Assam was two. In the Assam Medical College the admission capacity was raised to 110 during the year under report.

Bihar—Three medical colleges, at Patna, Darbhanga and Ranchi were functioning during the year under review. The admission capacity of these colleges rose up to 450 seats for M.B.B.S. course. In addition, facilities for training in Post-graduate courses existed in all the medical colleges. During 1960, 218 students passed M.B.B.S. course of which 131 passed from Prince of Wales Medical College, Patna and 87 from Darbhanga Medical College, Laheriasarai.

Gujarat—Three medical colleges namely B. J. Medical College, Ahmedabad, Medical College, Baroda and M.P. Shah Medical College, Jamnagar were imparting M.B.B.S. degree course during 1960.

On the day of formation of the State the total number of seats for admitting students in M.B.B.S. course was 220. After the formation of Gujarat State, 60 seats have been increased in June 1960 in these colleges. It was also proposed to establish one new Medical College during the Third Five Year Plan period with an initial admission of 60 students at Surat.

To improve teaching in medical colleges, Government have adopted the policy of gradually converting the Honorary posts into full-time ones and accordingly have sanctioned full-time units in Medicine, Surgery, Obstetric and Gynaecology and Paediatrics at Medical Colleges at Ahmedabad and Baroda.

Under Bombay Re-organisation Act, the existing Bombay Medical Council continued to function for both the States (Gujarat and Maharashtra). In newly formed Gujarat State, the Bombay Medical Practitioners' Act, 1912 was in force during 1960.

In addition to the above institutions, Post-graduate training was also given in the School of Post-graduate Medicine and Research, Ahmedabad.

Kerala—The number of admission to M.B.B.S. course was raised from 125 to 150 in Trivandrum Medical College during the year 1960. The admission capacity of Medical College, Calicut was also raised from 100 to 150 during the year. There were two schools of Nursing attached to the Medical Colleges, Trivandrum and Calicut and one School in Ernakulam. Facilities for Post-graduate Medical training were available in Medical College, Trivandrum. Facilities for training of Sanitary Inspectors also existed at this Medical College. During the year 1960, 305 students were admitted in M.B.B.S. course and 88 students graduated. New courses started in Medical College, Trivandrum during 1960 were Radiographer's Training Course, Optician's and Refractionists Course, Diploma Course in Nursing and Post-Certificate in Nursing. Registration of Medical Practitioners is being

affected under the provisions of Travancore-Cochin Medical Practitioners Act which came into force in 1953. With the re-organisation of this State in 1956 the question of amending this Act so as to extend it to the whole of the newly formed Kerala State has been taken up. As per the provisions of the Act the Director of Health Services of the State is the *ex-officio* member of the Council. There was no change in the schedule of recognised qualifications during 1960.

Madhya Pradesh—There were 4 Medical Colleges in the State which provided medical education for M.B.B.S. degree course. 375 students were admitted during the year under report, whereas 226 candidates graduated. Facilities for Post-graduate training in M.S., M.D., T.D.D., D.O.M.S., D.C.H., D.M.R.E. were available in Medical College, Indore and Medical College, Gwalior. During 1960, 18 candidates passed M.S. and 12 candidates M.D. Training of Nurses was conducted at 7 places. 77 Nurses qualified during the year. Facilities for training in Sanitary Inspectorship were available in G.R. Medical College, Gwalior and Public Health Laboratory, Rewa. 64 candidates passed the training.

The M.K. Medical Registration Council registered 148 medical practitioners during 1960 against 70 last year.

Madras—During 1960, the Kilpauk Medical College was established at Kilpauk, Madras, and the total number of admissions in all the six medical colleges rose to 466. During the year, 287 students qualified in M.B.B.S. degree course. From 1957, a compulsory student internship of one year duration was introduced after completion of the studies in the final year. From 1960, the annual admission capacity for the Integrated M.B.B.S. course have been increased in Madras Medical College, Madras from 135 to 150; in the Stanley Medical College from 110 to 125 and in the Madurai Medical College and the Thanjavur Medical College, at Madurai from 175 to 200. Further from July 1960, the College of Integrated Medicine has been converted into a Modern Medical College under the name of Kilpauk Medical College for teaching the M.B.B.S. students with an annual admission capacity of 75 students.

It was proposed to start Post-graduate Courses of M.S. (Orthopaedics) and M.D. (Paediatrics) at Madras Medical College from the next academic year.

Post-graduate degree and diploma courses existed in Madras Medical College, Stanley Medical College, Madras, Christian Medical College, Vellore, King Institute of Preventive Medicine, Guindy, Madras, Institute of Obstetric and Gynaecology, Government Hospital for Women & Children, Madras, Institute of Venerology, Government General Hospital, Madras and the Barnard Institute of Radiology.

Maharashtra—There were six medical colleges functioning during 1960. 656 students for under-graduate education were admitted in all these colleges. During 1960, 509 students graduated from Grant Medical College, Bombay. The Seth G.S. Medical College, Parel, Bombay, the B.J. Medical College, Poona, and the Medical College, Nagpur. Facilities for providing Post-graduate Medical Education were also available in these colleges. Refresher courses in Medicine and Public Health were given by Grant Medical College, Bombay.

The Sanitary Inspectors training courses were started in Poona and Nagpur, the former in Marathi and the latter in English. 100 candidates were admitted in each class. In all 153 candidates qualified as Sanitary Inspectors during the year under report. In addition to the above, two Sanitary Inspectors' classes in (1) Bombay Municipal Corporation and (2) All India Institute of L.S.G., Bombay were also conducted in the State.

Medical Officers-in-charge of P.H. Centres functioning in the rural areas of the State were being deputed for training for one month at Sir C.E.M. Dental College and Hospitals, Bombay. 13 medical officers have been trained during the year 1960.

Mysore—The present Mysore Medical Council was constituted under the provision of the Mysore Medical Registration Regulation Act, 1931. After the reorganisation of State in 1956, the Council had to cease functioning as it had to include practitioners from integrated areas and to increase the Membership of the Council, under the Mysore adaptation of laws (Second Amendment) order, 1957. According to this adaptation of laws the increase in the membership was to be 3, 2 and 1 from Bombay Karnatak areas, Hyderabad Karnatak areas and Madras Karnatak areas respectively. Till such time the Council was working under the President and the Registrar was looking after the work. This office took up the election work under the adaptation of laws and electoral roll was got ready. In the meanwhile a fresh Bill known as Mysore Medical Registration Bill, 1960 was introduced with certain amendments. According to the bill there is only one single Register for both graduates and licentiates instead of two parts as before. The Council would consist of 15 members as against 10 of 1931 Act. A system of renewal by paying an Annual fee of Rs. 2 is added in the bill. The bill has to be brought into Act, rules framed and Council formed.

The most important feature in respect of development of Medical Education during 1960 was re-organisation of the 3 medical colleges at Mysore, Bangalore and Hubli. The admissions at Mysore Medical College and Bangalore Medical Colleges were increased from 100 to 150 in each of these and from 100 to 120 at the Karnatak Medical College, Hubli. The Government of India sanctioned an assistance of Rs. 22.60 lakhs for meeting the extra cost in respect of the increased admission at the Medical Colleges. The Government have also taken steps for starting Post-graduate Courses in Anatomy, Pharmacology, Ophthalmology and B. Pharma Courses in the Medical Colleges at Mysore and Bangalore.

Punjab—Recognising the necessity for increasing the facilities for Medical education, Government of Punjab decided to open a new Medical College at Rohtak during 1960. It had already started functioning at Patiala as a temporary measure. Government have also decided to set-up a Post-graduate and Research Institute at Chandigarh. Post-graduate training in the course of M.D., M.S., D.O.M.S., D.T.D., etc. were already being given at Medical College, Amritsar during the year under review. Medical education was imparted in the following colleges :

1. Medical College, Amritsar.
2. Medical College, Patiala.

3. Medical College, Rohtak (functioning at Medical College, Patiala since the building at Rohtak is not yet ready).
4. Christian Medical College, Ludhiana.
5. Arya Medical School, Ludhiana (imparting training for licentiate course).

Three medical colleges run by the State, admitted 234 students for M.B.B.S. course while the number of students admitted in the Christian Medical College, Ludhiana run by a Missionary Body, was 50.

The number of doctors registered with the Punjab Medical Council during 1960 was as follows :

Graduates	2,922
Licentiates	2,800

Rajasthan—With a view to provide more facilities for the Medical Education and to meet the increased requirement for the medical personnel by the State of Rajasthan the admission capacity of Medical College, Bikaner was raised from 50 to 100 during 1960 and third Medical College was established at Udaipur during the year under review. This Medical College with a batch of 40 students functioned in the S.M.S. Medical College, Jaipur. During this year, the student-teacher ratio and student-bed ratio of S.M.S. Medical College, Jaipur had been 6 : 1 and 1 : 2 respectively and the student-teacher ratio of S.P. Medical College, Bikaner was 1 : 9 and the student-bed ratio was 1 : 5. Post-graduate studies at S.M.S. Medical College, Jaipur were already started from 1952 onwards in various subjects and at Bikaner during the year 1960 in Anatomy and Physiology.

West Bengal—In the state of West Bengal, five Medical Colleges were functioning for training of Under-graduates during 1960.

The Nil Ratan Sircar Medical College which was a school before has been upgraded to a full-fledged Medical College. R.G. Kar Medical College was also taken over under Government management. The standards and methods of teaching in the Calcutta Medical College have been improved by revising the set up of teaching staff in the institutions more or less on the lines recommended by the Health Survey Committee. Wherever practicable, paid staff have been employed in place of the staff working so long on honorary basis. Necessary equipment for various departments of the Medical Colleges have been procured.

Post-Graduates Training :

The Government have set up an Institution of Post-graduate Medical Education and Research in the Seth Sukhlall Karnani Memorial Hospital, Calcutta in order to extend Post-Graduate Training facilities and for imparting higher studies *viz.*, M.S., M.D., M.O., D.A. and D. Phill.

There is also arrangement for Post-Graduate training in Calcutta Medical College for some of the degrees and diplomas *e.g.*, M.S., M.D., M.O., D.O.M.S., D.G.O. etc. Government have established an Institute of Ophthalmology at the Medical College, Calcutta.

The Compounder's Training Course has been replaced by a higher and better course of training and for this purpose a Pharmacy Training Centre has been established at Jalpaiguri. This centre will also impart training in D. Pharma Course with annual intake of 50 students. A course for Sanitary Inspectorship also existed, duration of which has been made 1 year instead of 6 months as before. Annual intake is 100 trainees. Examination is conducted by Faculty of Tropical Medicine, Calcutta.

A School of Physical Medicine has been established at the Seth Sukhlall Karnani Memorial Hospital, Calcutta. Duration of course is 2 years and annual intake is 20.

The question of amending Section 17 of the Bengal Medical Act, 1914 on the analogy of Section 25 of Indian Medical Council Act, 1956, is under active consideration of the State Government so as to enable the State Medical Council to charge a fee for giving provisional registrations. Practice by quacks is not however prohibited under existing provisions.

Andaman and Nicobar Islands—Facilities for education and training in the field of medicine were not available in this territory. To meet the growing requirement of Compounders for hospitals and dispensaries, a few persons are given training in Compounder's work in Civil Hospital, Port Blair. One doctor has been sent to Barnard Institute, Madras for training in Radiology and another for Anaesthesia and Eye diseases to Safdarjang Hospital, New Delhi. The Lady Medical Officer for V.D. treatment scheme was deputed to attend a refresher course for V.D. at Safdarjang Hospital, New Delhi during the year under review.

Delhi—There were 3 Medical Colleges functioning at Delhi to impart M.B.B.S. degree. The Lady Hardinge Medical College is exclusively for girls. All India Institute of Medical Sciences provides Under-graduate and Post-graduate education in Medical Sciences.

During 1960, the number of students admitted in M.B.B.S. course was 200. The number of admission, in Maulana Azad Medical College has been increased from 70 to 72 in 1960. This College was also recognised for Post-Graduate training for M.Sc. Course in Anatomy, Physiology and Biochemistry of the University of Delhi. The College was inspected by the Inspection Committee of Delhi University for recognition of various Departments both for Post-Graduate and Under-graduate studies during the year under review.

Himachal Pradesh—Training in the following courses were provided in the hospitals mentioned against them during 1960. Himachal Pradesh State Hospital, Snowdon. Simla provided training in Lady Health Visitors' Course, General Nursing Course and Integration of Public Health Course with basic course in Nursing. The District Hospitals, Mandi, Nahan and Chamba were imparting Training of Auxiliary Nurse Midwives.

The following number of persons were trained in the various institutions outside as well as in the training Centres of Himachal Pradesh during 1960 :— M.B.B.S. Course—24. Auxiliary Nursing-Midwives—37. Sanitary Inspectors—7. Lady Health Visitors—8. General Nursing—5. Refresher Course in the various items were also available during the year under review.

CHAPTER IX

1. Dental Education, Registration and relief.
2. Dental Council of India, New Delhi.

(219-225)

DENTAL EDUCATION, REGISTRATION AND RELIEF

Consequent upon attainment of independence and initiation of Five Year Plans, the subject of Dentistry has been given due importance. In 1945 there were only 3 dental institutions in India and in 1960 we have 11 dental institutions with total annual admission of about 353 for regular four years B.D.S. courses. During 1960, the total number of students admitted and passed out was 353 and 141 respectively. The course of licentiates in Dentistry has been totally dispensed with. A statement showing the list of Dental Colleges which prepare students for B.D.S. degree in different States, the total number of seats available in B.D.S. courses together with the seats reserved for candidates from other States is given in Table 63.

Under the Dentists Act, 1948, the Dental Council of India is the authority to set uniform standards in dental education.

The following dental courses were being followed by all Dental Institutions. The medium of instructions in all the Institutions is being English.

- (a) Bachelor in Dental Surgery (B.D.S.).
- (b) Master Degree Courses in Dentistry (M.D.S.).
- (c) Certificate courses for dental mechanics.
- (d) Certificate Course for Dental Hygienists.
- (e) Examination No. I—for persons registered on Part B to qualify for registration on Part A of the Dentists Register.
- (f) Examination No. II—for persons to qualify for registration on Part B of the Dentists Register.
- (g) Diploma in Public Health Dentistry.

During 1960, the Patna Dental College Hospital, Patna started functioning with an admission capacity of 10 seats. Out of these, one seat was reserved for girl, one for Scheduled Caste/Tribes and one for backward class.

The proposal to establish certificate course in Public Health Dentistry at the All India Institute of Hygiene and Public Health, Calcutta has not been approved by the Central Government so far. Bombay University have started two years Master Degree Courses in Dentistry (M.D.S.) in seven subjects sponsored by the Central Government at the two Dental Institutions in Bombay. The Central Government have also sanctioned 42 stipends of Rs. 150 per month for any graduate giving an undertaking to serve the State Government for a period of 3 years. Priority is given to State sponsored candidates. For establishment of Post-graduate Courses in Dentistry, the Central Government also agreed to offer financial assistance to the Sir C.E.M. Dental College, Bombay and the Nair Hospital Dental College, Bombay.

During 1960, 20 students were admitted to undertake various Post-graduate courses in Sir C.E.M. Dental College and Hospital, Bombay and Nair Hospital Dental College, Bombay. Stipend at the rate of Rs. 150 p.m. has also been sanctioned to each of the student admitted to the Post-graduate courses at Bombay.

Fellowship in Dentistry were given under the W.H.O., Colombo Plan by the Government of India and internships in the U.S.A. by the All India Dental Association.

Government of India agreed to offer financial assistance in respect of establishment of the following Dental College :—

- (1) Dental College, Trivandrum, attached to the Medical College, Trivandrum.
- (2) Dental Wing attached to the Osmania Medical College and General Hospital, Hyderabad.
- (3) Centre for training dentists registered on Part B of the State Dentists Register transfer to Part A thereof at the King George's Medical College, Lucknow.

The Central financial assistance was also given in respect of expansion of the following Dental institutions :—

- (1) Dental Wing of Madras Medical College, Madras for increasing annual admissions from 20 to 30.
- (2) Dental Wing of the King George's Medical College, Lucknow for increasing annual admissions from 20 to 40.
- (3) Dental College, Amritsar for increasing annual admission from 14 to 30.
- (4) Sir C.E.M. Dental College, Bombay for increasing annual admission from 40 to 100.
- (5) Calcutta Dental College, Calcutta for increasing annual admission from 30 to 40.

Dental Services :

During the Second Plan, it was proposed to equip all the District Headquarters Hospitals with well equipped Dental Clinics, so that treatment for Dental diseases can be had at each District Headquarters Hospital, and it was intended to open 350 dental Clinics during the plan period.

The number of dental clinics functioning in different States during 1960 to cater to the need of the dental patients is given in Table 64.

In order to indicate the extent of dental relief available to the people it was worked out that the ratio of dental practitioner to population was 1 to 3,00,000 during 1945. The ratio during the year under review came out to be 1:107000. The total number of Dentists in India was 3,584. Out of these 973 were registered on Part A (qualified) and 2,611 registered on Part B (unqualified).

DENTAL COUNCIL OF INDIA, NEW DELHI

There has been no settlement so far between the Dental Council of India and the General Dental Council of U.K. over the mode of recognition of Indian Dental Qualifications by that Body. In March 1960, the Council again reviewed the position in light of the reply received from the General Dental Council of U.K. in which that Council had again stressed the principle of sending their Visitors to visit our Dental Institutions. The Dental Council of India did not favour this proposal and has reiterated its earlier decision that the recognition of Indian Dental Qualifications should be considered by that Council on the basis of the Inspection Reports of Dental Institutions conducted by the Inspectors appointed by us, as has been the well established procedure being followed by the General Medical Council of U.K. towards the recognition of Indian Medical Qualifications.

The following three foreign qualifications have been recognised by the Council under item (30) of Part II of the Schedule to the Dentists Act, 1948 :—

- (i) B.D.S. degree of the University of Edinburgh, Edinburgh, England.
- (ii) The Degree of Master of Dental Surgery (M.D.S.) of the University of the New Zealand, Wellington, New Zealand.
- (iii) The Degree of Doctor of Medical Science (D.M.Sc. Igaku hakusi) in Operative Dentistry of the Tokyo Medical and Dental University, Tokyo, Japan.

Since the Council has not established reciprocity for the recognition of qualifications with any foreign country, these qualifications shall not entitle persons other than Citizens of India for registration.

The Syllabus, Rules and Regulations etc. for Dental Hygienists previously laid down by the Council, have been revised in light of similar regulations etc. laid down by the General Dental Council of U.K. and submitted to the Union Ministry of Health for their approval under Section 20 of the Dentists Act, 1948. The major changes brought in are :

- (i) Teaching hours have been reduced in various subjects ;
- (ii) Subjects for examination have been rearranged ; and
- (iii) Duration of training has been reduced from two years to one year.

In accordance with the Rules and Regulations for Dental Mechanics laid down by the Council and approved by the Government of India, the Board of Examiners for both the Primary and Final Dental Mechanics Examinations are to be approved by the Council. The Board of Examiners is constituted of an External Examiner, and two internal Examiners; one of these is appointed President of the Board. Sir C.E.M. Dental College and Hospital, Bombay, where the two years' Dental Mechanics course is in operation, has regularly been obtaining the approval of the Council for the Board of Examiners

for both the Primary and Final Dental Mechanics Examinations. The last examinations were held in October 1960.

The minimum basic qualifications previously laid down by the Council for appointment of teaching staff for a Master's Degree course in Dentistry in a Dental Institution have been amended as follows:—

Professor and Head of the Department :

He should possess M.D.S. or M.S. or Ph.D. or D.D.Sc. or F.D.S. R.C.S., or an equivalent Post-graduate qualification recognised by the Dental Council of India with one year's teaching experience or possessing a recognised basic qualification with seven year's experience.

This has been approved by the Government of India under Section 20 of the Dentists Act, 1948. No change has been made in the qualifications for Assistant Professors to teach Post-graduate courses in Dentistry and which reads as follows.

Assistant Professor :

He should possess B.D.S. or an equivalent qualification recognised by the Dental Council of India with three years' teaching experience.

To a proposal of the University Grants' Commission that the medium of instructions may be switched over from English to Hindi or in the relevant regional languages, the Executive Committee of the Council were of the opinion that until the Text-books were translated into Hindi and other regional languages, the medium of instructions should continue to be English. All the Universities with which Dental Institutions are affiliated have been apprised of the above views of the Executive Committee.

The Examiners and Paper-setters etc., appointed by the Council for Examination No. I envisaged under the second proviso to Section 34 of the Dentists Act, 1948, conducted in July, 1960 the examination of the 4th batch of candidates consisting of 13 candidates. Out of these 13 candidates, 11 candidates had just completed the prescribed course at the Dental College and Hospital, Lucknow and the other two were re-appearing in some of the subjects in which they had failed earlier. 10 candidates were successful and to whom the Certificates were issued after the publication of the result in the Gazette of India.

Although the Government of India had agreed in principle to provide training facilities for Examination No. II envisaged under Section 34(i) (ii) of the Dentists Act, 1948, at the Dental College and Hospital, Lucknow, it has not yet been implemented. Since the period of ten years specified in Section 34(i) (ii) and second proviso to Section 34 of the Dentists Act, 1948, are on the verge of expiry in most of the States and which has already expired in some of the States, the Council, therefore, has reiterated its earlier decision that facilities for this examination should be provided immediately and further that the period specified in the foregoing Sections of the Act should be extended by another five years.

The matter is under the consideration of the Government of India.

At the instance of this Council, the Government of India have issued instructions to all the State Governments to take rigorous steps against unregistered Dentists where the period of three years as specified in Section 49 of the Dentists Act, 1948 has already expired.

At the instance of the Council, the Government of India have issued instructions to all the State Governments where Dental Institutions form Dental Wings of Medical Colleges, follow the 'Minimum' basic qualifications for appointment of teaching staff for a degree course in Dentistry as laid down by the Council irrespective of whether functioning as independent units or attached to Medical Colleges.

Inspection of Dental Institutions :

As per powers vested under Section 15 of the Dentists Act, 1948, the Executive Committee of the Council appointed Inspectors and who conducted the inspections of the following four Dental Institutions :—

- (a) Nair Hospital Dental College, Bombay ;
- (b) Sir C.E.M. Dental College and Hospital, Bombay ;
- (c) Dental Wing, Government Medical College, Patiala ; and
- (d) Dental Wing, Osmania Medical College, Hyderabad where the B.D.S. course commenced only last year.

As required under the Council's Regulations, these inspection Reports have been forwarded to the Universities concerned for their observations thereon.

Inspectors have also been appointed by the Executive Committee of the Council to inspect the newly started Dental Colleges at Bangalore and Trivandrum. The Inspection Report on the Dental College Trivandrum is awaited from the Inspectors and the inspection of the Dental College, Bangalore is expected to be carried out shortly.

Inspection Reports of Dental Institutions—Consideration of :

(a) *Calcutta Dental College and Hospital, Calcutta*: The Council has approved of the interim arrangement made by the Principal, Calcutta Dental College and Hospital, Calcutta in obtaining the services of Dr. V. S. Iyer, Professor in Orthodontics at the Sir C.E.M. Dental College and Hospital, Bombay, to teach this subject at this college for 4 to 6 weeks (*viz.* in May and September) each year until the return of Dr. Guha from abroad.

The Council have further noted the assurance of the Controller of Examinations, University of Calcutta that in all their future B.D.S. Examinations only those Examiners would be appointed who are active teachers.

(b) *Dental Wing, Madras Medical College, Madras*: The Inspection Report of the Inspectors on the Dental Wing, Madras Medical College, Madras carried out by them in October 1959 alongwith the observations of the Madras University thereon has been approved by the Council, but at the same time it has decided that the attention of the Madras University and the Madras Government be invited to the fact that the teaching staff at this institution is short by 2 Professors and one Reader and that these appointments should be made good within one year.

Adequacy of teaching staff at Dental Institution :

The Executive Committee of the Council after reviewing the latest position of teaching staff at Dental institutions have recommended as under :

(i) *Dental College and Hospital, Lucknow*: The teaching staff at this College is short by 3 professors and that these appointments should be made as early as possible ;

(ii) *Calcutta Dental College and Hospital, Calcutta*: The teaching staff at this College is short by two Readers and that these appointments should be made at an early date.

The Dental Goods Manufacturing Sub-Committee set up by the Council, since its inception has been carrying out the work entrusted to it and has succeeded in creating interest in Indian Manufacturers of Dental Goods and Equipment in the country. The Sub-Committee has been stressing that no import restrictions should be imposed before considering the quality, the quantity and the price of local made goods and Equipment. The Council after reviewing the latest position has again reiterated to the Chief Controller of Imports and Exports, for relaxation of import policy towards certain Dental Goods. Emphasis has also been laid down to grant freely 'Actual Users Licence' for the import of spare parts of existing Dental equipments, as none of the indigenous manufacturers are interested in manufacturing them.

Apart from the activities of the Central Government and the Dental Council of India in the field of dentistry, the activities of the State Government and the State Dental Councils are also important in as much as they supplement the activities of the former. These are briefly summarised below.

Andhra Pradesh—The Dental Wing of the Osmania Medical College, Hyderabad was imparting dental education B.D.S. Course. Moreover in all the medical colleges of this State, the Dental departments were functioning for the teaching purpose of dental surgery for undergraduates. Separate dental beds have been provided in the concerned teaching hospitals for clinical purposes. Dental Registration Act was enforced from the years 1958 and the Dental Council has been functioning satisfactorily. Standard of the former BDS examination were supervised by the Inspection Committee.

Assam—No dental college was established in the State. The Assam Dental Council constituted under the Indian Dental Act, 1948 continued to function during the year. 66 dentists were registered in the State.

Bihar—During the Second Five Year Plan period all the 15 Sada Hospitals of the State were provided with a dental clinic.

A dental College at Patna was established in July 1960 with annual admission of 10 students. The course is of four years duration. An out-patient department of the Patna Medical College Hospital, Patna functioned during the year under report.

Gujarat—On bifurcation of the former Bombay State and on formation of the new Gujarat State as per provisions under the Bombay Re-organisation Act, the existing Bombay State Dental Council continued to function for both the States. Draft scheme to bifurcate the above council prepared under Section 3 of the Inter-State Corporation Act, 1957 for dissolution of the Council was under scrutiny and consideration of Maharashtra Government.

Kerala—The State has one Dental College. The annual admission is 50. The M.B.B.S. students are given 2 weeks training in Dental Department. The registration tribunal constitution under Section 32(1) of the Dental Act, 1948 (Central Act XVI of 1948) was functioning in the State during the year 1960.

Maharashtra—During the year 1960, the new building of the Government Dental College, Bombay to have the existing institution and the post-graduate Department was laid down by the Chief Minister for the State of Maharashtra. Training of Dental mechanics has also been started in the College. The Course was recognised by the Dental Council of India.

Mysore—The full complement of the teaching and other staff at the Dental College, Bangalore was reorganised. The admission at the College were also increased from 10 to 20 during 1960. 8 dental clinics were giving dental relief to the patients. During 1960, there were 22 dentists in Part A, 198 dentists in Part B and 60 dentists in part B.T. of the registers.

West Bengal—The Calcutta Dental College with its hospital has been brought under the management of the State. The Institution which was so long imparting training upto the Licentiate standard has been upgraded to the degree course of B.D.S. conferred by University of Calcutta. The staff and equipment of the institution have been augmented. 40 seats are available for admission and recruitment is on all India basis. As per provision of Section 49 of the Dentist Act, practice by unregistered dentists were prohibited.

Punjab—There was a special Dental Hospital and 19 dental clinics functioning in Punjab during 1960. The Government Dental College and Hospital, Amritsar providing specialist services in the group of diseases and training candidates in BDS course.

Himachal Pradesh—During 1960, a registration council for Dentists came into existence. Four doctors were registered under Part A of the Dentists Act, 1948 and 71 Dentists were registered as unqualified under Part (B) of the same Act.

CHAPTER X

CENTRAL DRUGS STANDARD CONTROL ORGANISATION

1. Drugs Control.
2. Medical Stores Organisations.
3. Pharmacy Council of India.

(227—234)

DRUGS CONTROL

The Central Drugs Standard Control Organisation is headed by the Drugs Controller (India) assisted by the Deputy and Assistant Drugs Controllers at the Headquarters and an Assistant Drugs Controller each at the posts of Bombay, Calcutta, Madras and a Technical Officer at the port of Cochin.

Import of Drugs :

Control over the quality of imported drugs continues to be exercised by the Central Government through its officers at the ports of Bombay, Madras, Calcutta and Cochin. During the year, 13,302 samples, were drawn for inspection from imported consignments for examination as compared to 11,830 during the previous year. Out of these, 774 samples were sent for test of which 45 were declared to be not of standard quality.

Table presented below gives particulars regarding the consignments imported, the samples drawn for examination and sent for test and the results thereof.

Name of the port of entry	No. of Bills of entry	No. of items covered by the Bills of entry	No. of samples drawn for examination		No. of samples sent for test		No. of sample declared not of standard quality	
			Under Rule 40 **	Under Rule 26 *	Under Rule 40 **	Under Rule 26 *	From those under Rule 40 **	From those under Rule 26 **
1	2	3	4	5	6	7	8	9
Bombay . .	17,874	31,192	8,470	136	234	134	10	5
Calcutta . .	3,492	5,106	1,479	2	280	2	22	1
Madras . .	2,801	4,804	3,250	27	80	27	6	1
Cochin . .	96	176	103	1	16	1	Nil	Nil
TOTAL .	24,263	41,278	13,302	166	610	164	38	7

** Drawn at the time of import.

* Drawn from importers premises subsequent to import.

The samples that have been drawn for examination and sent for test have been broadly classified into various categories and these have been tabulated in table given below.

Category of samples	No. of samples drawn for examination		No. of samples sent for test		No. of samples declared to be not of standard quality	
	Under Rule 40	Under Rule 26	Under Rule 40	Under Rule 26	Under Rule 40	Under Rule 26
1	2	3	4	5	6	7
Vitamins . . .	984	8	18	8	3	1
Hormones . . .	328	6	9	6	..	..
Antibiotics . . .	736	35	33	35	1	1
Insulin . . .	112	14	1	14	..	..
Biological Products .	636	89	39	87	4	6*
Chemotherapeutic Drugs.	958	2	105	2	1	..
Galenicals . . .	50	..	2	..	..	..
Other drugs . . .	9,498	12	383	12	31	1
TOTAL .	13,302	166	610	164	40	9

*Includes 2 retested samples at Madras.

In addition to drawing samples at the time of imports, a running control over the quality of drugs is kept by drawing samples from importer's godown under rule 26 of the Drugs Rules particularly in case of biological products such as Sera, Vaccines, Antibiotics etc. which are known to deteriorate on storage. The number of samples that have been drawn under rule 26 for the present year totalling 166 is slightly less as compared to the number drawn during the previous year i.e., 186. This can be accounted by the fact that most of the drugs that are imported are in bulk meant for ready processing and very little scope for drawing samples from importers' godowns under rule 26 exists.

As in the past most of the drugs imported were in bulk form as raw material for further processing as the present import policy is very restrictive in regard to import of finished preparations. The total value of drugs imported during the year was Rs. 14.67 crores as against Rs. 14.36 crores for the previous year. In addition Rs. 1.75 crores worth of insecticides were imported under the T.C.M. programme for the National Malaria Eradication Programme.

Of the total imports of the essential Antibiotic accounted for 32.6 per cent., Sulpha drugs 13.05 per cent., Vitamin 9.43 per cent., Hormones 5.51 per cent., Anti-T.B. drugs 3.04 per cent., Anti-diabetic

drugs 2.17 per cent., Anti-malarials drugs 2 per cent., Anti-amoebic drugs, Anaesthetics and Analgesics 1 per cent. each, Diuretics 1.4 per cent., Sera and Vaccines 2.5 per cent. and Anti-histaminis 2 per cent. A noteworthy feature during the year was the fall in the imported prices of most of the essential drugs, in particular Tetracycline, Streptomycin, Chloramphenicol, Vitamin B₁₂, Insulin Penicillin etc., with the result that for the same amount of foreign exchange larger quantities of drug could be imported.

The import policy in respect of drugs continues to be restrictive and such of the drugs as are now being manufactured in the country are normally not permitted to be imported or are permitted to the extent of filling the gap.

One of the pre-requisite conditions for the grant of an import licence under the Drugs Act is that the importers' premises are equipped with proper storage facilities for preserving the properties of the drug. The premises of 21 firms located at different ports were accordingly inspected by the Drugs Standard Control Officers during the year under review as against 49 firms in 1959-60.

Import Licences :

Due to the stringent import restrictions, the number of fresh import licences issued during the year decreased from 154 to 94. 185 licences were issued/renewed during the year.

New Drugs :

54 applications for permission to import new drugs were received during the year of which 25 drugs were permitted import. 30 drugs for which application had been received earlier were also permitted import during this year. Permission in respect of 2 drugs was refused.

Control over the manufacture and sale of Drugs :

The Drugs Act is now operative in all States in the Union except Jammu & Kashmir. Consequent to the bifurcation of the State of Bombay into Maharashtra and Gujarat the Directorate of Drugs Control Administration in the erstwhile State of Bombay was bifurcated into Directorate of Drugs Control Administration, Maharashtra and Directorate of Drugs Control Administration, Gujarat. The Government of Maharashtra have constituted a State Advisory Board on Drugs Control and Prevention of Spurious Drugs to advise the State Government on problem arising out of the enforcement of the Drugs Act. Drugs Advisory Committees consisting of representatives from the trade, from Drugs Control authorities and the general public have already been constituted in the States of Assam, Bihar, Madras, Madhya Pradesh and Punjab. Similar Committees have been constituted in the State of Kerala, Gujarat, Union Territory of Delhi during the year under review. The number of manufacturing and sale licences issued during the year in various States is given in Table 65.

Testing of Drugs :

The number of samples sent for test by the various States during the year under review totalled 7,662 as against 7,816 during the previous year. A statement showing the particulars of the samples tested and the results thereof is given at Table 66. The slight decrease

in sampling observed during the year was mainly due to inadequate testing facilities and consequent accumulation of samples for testing in previous months in most of State laboratories. Except the States of Gujarat, Madras, Maharashtra, Rajasthan and West Bengal who have their own facilities for testing of drugs, the remaining States have appointed the Director, Central Drugs Laboratory, Calcutta as their Government Analyst. Even in those States which have appointed their own Government Analyst the testing facilities are far from satisfactory. The necessity of having adequate facilities have been impressed on the the States and it is heartening to note that some of the States have already taken steps to set up testing units under their own control. The Government of Gujarat have recently built an up-to-date modern laboratory for testing of all classes of drugs at Baroda and this laboratory is expected to start functioning in place of existing testing unit some time next year.

The Government of Kerala have also set up a testing laboratory at Trivandrum and arrangements to suitably staff the laboratory are now being made. The Government of Mysore have also similar plans for setting up a laboratory of their own at Bangalore.

Prosecutions :

248 prosecutions were launched during the year. In addition some of the prosecutions which were launched earlier were also heard during this year. 236 cases were decided during the last year resulting an acquittal in 52 cases and conviction in the remaining. Only in 5 cases the conviction was fine. A statement showing these details statewise is given in Table 67.

42 cases pertaining to the manufacture and/or sale of spurious drugs which included cases pending in the previous year were decided during the year. Of these 27 ended in conviction of which only in one case the punishment was imprisonment. The details of the cases are included in Table No. 68.

Drugs and Magic Remedies (Objectionable Adevrtisement) Act:

A decision was taken by the Government to permit advertisement of all approved contraceptives without obtaining the prior permission of Government under Section 14(i) (d) of the Drugs and Magic Remedies (Objectionable Advertisement) Act so long as such advertisements were not false, misleading or exaggerated. In accordance with this decision a notification was issued under Section 15 of the Drugs and Magic Remedies (Objectionable Advertisements) Act exempting contraceptives approved by Government from the relevant provisions of the Act.

During the year under review permission was granted for advertisement of "Preceptin" an approved contraceptive. A list of contraceptives which have been so far permitted to be advertised under Section (1)(d) of the Drugs and Magic Remedies (Objectionable Advertisements) Act is given below :—

1. Contab Foam Tablets.
2. Cooper Crem.
3. Ortho Diaphragm Jelly.

4. Ortho Gynol Jelly.
5. Preceptin Jelly.
6. Planitab Tablets.

Drugs Amendment Act (1960):

A note worthy event of the year under review was the passing of the Drugs Amendment Act, 1960. The salient feature of the Act is the provision of a minimum punishment of one year which may extend upto three years in respect of contraventions pertaining to the manufacture and sale of spurious drugs. The amended Act has also empowered Central Government to appoint Inspectors and Government Analysts. Central Government have also been given powers to issue directives to any State Government which may be necessary for carrying into execution in the State any of the provisions of this Act or Rules made thereunder.

Drugs Technical Advisory Board :

The meeting of the Drugs Technical Advisory Board was held in Delhi in December 1960. The recommendation made by the Board, amongst others include—

- (a) the relaxation of the period of experience laid down in the Drugs Rules for persons in charge of manufacturing operations from two years to eighteen months for graduates in Pharmacy ;
- (b) recognition of the Associateship Diploma of the Institute of Chemists in India with analysis of Drugs and Pharmaceuticals as one of the subjects as a basic academic qualification for the purpose of qualifications laid down in the Drugs Rules for Inspectors and Government Analysts.

Several Sub-Committees of the Drugs Technical Advisory Board met during the year. The Sub-committee for "Stability of Short-life Biological Products" prepared a list of such biological products along with the storage conditions and life periods. The "Oral Liver Extract" sub-committee drafted standards in respect of preparations of Liver Extract for oral use. The "Poisons" sub-committee revised the schedules pertaining to poisonous substances, drugs to be dispensed against prescriptions etc. and also drew up a uniform poisons list to be adopted by State Governments under the rules framed by them under the Poisons Act, 1919.

Drug Conference :

The sixth Drug Conference was held under the Chairmanship of Health Secretary at Cochin in October, 1960 and was attended by representatives of the drugs trade and industry and State Drugs Control authorities.

The difficulties of the industry in the procurement of chemicals and reagents required for analysis of drugs and the difficulties of the retail chemists in complying with the requirement of Drugs Rules requiring them to sell patent or proprietary medicines in unopened containers were amongst the many problems discussed at the Conference.

Indian Pharmacopoeia :

A supplement to the first edition of the India Pharmacopoeia was published in December, 1960. The supplement contains monographs on about 90 drugs and their preparations which include some of the recent antibiotics, antihistaminics, anti-infectives, hormone preparations etc. The supplement also contains amendments to some of the existing monographs and deletions of a few monographs in the Indian Pharmacopoeia.

National Formulary of India :

The National Formulary of India was published in April 1960. This Formulary contains a list of drugs along with their essential formulations.

Steps to popularise the National Formulary for adoption by hospitals, dispensaries and general practitioners in the country were continued. It is gratifying to note that the Government of Gujarat has already issued an order directing the Government hospitals and dispensaries in the State that National Formulary of India be used in all Government Medical Institutions and indents and prescriptions in respect of drugs should be based on the nomenclature of drugs used in the National Formulary. The State Health Ministers have been addressed by the Union Minister of Health calling their attention to the action taken by the Government of Gujarat and requesting them to take steps in that direction. The Medical Stores Depots which cater to the needs of the Government hospitals and dispensaries in the country have also been requested to include the preparations in the National Formulary in their Vocabulary of the Medical Stores.

THE MEDICAL STORES ORGANISATION

The Medical Stores Organisation is a permanent organisation of the Government of India for over 65 years standing. There are four Medical Stores Depots located at Madras, Bombay, Calcutta, and Karnal and two factories which are attached to the Depots of Madras and Bombay. They manufacture tinctures, tablets, bandages etc. There is a Repair Workshop at Medical Stores Depot, Madras for repairing surgical instruments and appliances. The function of these Depots is to supply medical stores to the various civil medical institutions under the Central and the State Governments, Railways, Local Bodies etc. Besides, there are several casual indentors drawing supplies from the Medical Stores Depots as and when required.

The activities of the Medical Stores Organisation are increasing day by day as a result of enrolment of new indentors and receipt of large quantities of stores from International Organisations such as UNICEF, TCM, WHO for implementation of national health programmes. The number of regular indentors is now 13,011 whereas it was 11,813 during 1959.

Having considered the increase in sales the departmental charges of 20 per cent. which had been in force since the very inception of the Medical Store Depots have been reduced to 16.6 per cent. with effect from 1st October, 1960.

The total value of stores purchased by the Medical Stores Organisation during 1960 was Rs. 1,83,769 as against Rs. 1,74,36,458 during the year 1959.

The total effective sales of the depots during 1960 were Rs. 2,26,42,825.

The Medical Stores Depot Factories at Madras and Bombay manufactured stores to the value of Rs. 23,22,153 and Rs. 17,88,929 respectively.

The value of stores handled from International Agencies by the Medical Stores Depots during the year 1960 is as under :—

Receipts :—Rs. 8,88,84,774.84 ; Issues :—Rs. 11,03,53,650.36.

PHARMACY COUNCIL OF INDIA

During the year 1960-61 an institution was started in Orissa State and another institution in Madras State. Advice was given by the Council to the States of Mysore and Assam and the Poona University, which proposed to open similar institutions. So far five State Governments, four Universities and one private body conducted courses of study for the Diploma in Pharmacy.

The Government of Maharashtra have included in the draft Third Five Year Plan the scheme prepared by the Pharmacy Council of India for a Model Institute providing Diploma in Pharmacy Course. Under this scheme Pharmacy colleges will be opened at Nagpur, Poona and Aurangabad.

The scheme for a Model Hospital Pharmacy prepared by the Pharmacy Council of India has been included in the Third Five Year Plan by the Delhi Administration and the Government of Punjab. The Government of Maharashtra have made provision for imparting training to student Pharmacists at Bombay, Poona and Nagpur.

Three inspections were carried out during the year under review. The Inspectors of the Council also attended at the Examination in Pharmacy conducted at the Pharmacy School, Patna and reported on the standards of training attained by the students.

The reports of the Inspectors on the quality and contents of the courses of study provided by these institutions were considered by the Council and approval, under section 12 of the Act, was granted to the courses of study at the Bombay College of Pharmacy, Bombay and the Pharmacy Training Centre, Jalpaiguri respectively.

The Pharmacy Council of India has compiled, on an all-India basis a list of Institutions, which have facilities for training student Pharmacists which will be maintained up-to-date in consultation with the State Drugs Control Authorities who will inspect the premises of such establishments from time to time and ensure that the training establishments comply with the standards required of them in respect of accommodation, equipment, reference books etc. 45 Institutions were finally approved for this purpose during the year under review, while 47 Institutions were provisionally approved.

The Pharmacy Council of India desired that better coordination should be maintained among the various institutions which provide courses of study for the Diploma in Pharmacy so that uniformity in the standard of training might be achieved. The Council initiated a service by which copies of question papers were collected from all such institutions and circulated among them.

The Pharmacy Council is currently engaged in the preparation of a Career Phamphlet in order to attract the cream of the talents in the country to the profession of pharmacy. The Council will print 3,000 copies of its "Code of Pharmaceutical Ethics" for circulation among the students who pass out of the teaching institutions.

CHAPTER XI

MEDICO-LEGAL WORK AND THE SEROLOGIST DEPARTMENT

(235—237)

MEDICO-LEGAL WORK AND THE SEROLOGIST DEPARTMENT

The work of the Department of Serological and Chemical Examiner to the Government of India, Calcutta consisted of (1) mainly medico-legal analyses of cases received from all over India; (2) Venereal Serological tests undertaken for clinical purposes; (3) Manufacture of V.D.R.L. antigen for distribution to all over India and South-East Asian countries and (4) Research works.

I. Medico-legal Analyses:

This is the primary and most important work of the Department. This consisted of (i) the determination of origin of blood and semen from stains on exhibits as also of origin of tissue and body fluids; (ii) the determination of blood group from stains of blood and semen, though rarely, and (iii) determination of paternity or maternity in disputed cases.

The steady increase of laboratory examination has been maintained in the year under report in so far as the determination of origin of blood and determination of blood groups are concerned. The latter process is very laborious, pains taking and time consuming. The accelerated increase of this examination is almost creating a problem for availability of working hands as well as the supply of group serum.

The Department continued to function for the Union of Burma and 325 articles relating to 222 cases from that country were examined during the year under report.

A total of 48,220 exhibits were analysed from 9,511 cases as against 46,478 exhibits from 9,743 cases in the previous year. It will be noticed that the number of exhibits has increased by 3.74 per cent. Test for blood and semen group were done on 32,301 exhibits from 5,542 cases as against 27,475 exhibits from 5,135 cases in the previous year. Thus blood and semen group cases have increased by 7.92 per cent and exhibits in these cases by 17.56 per cent. It will also be seen that the demand for and semen group was made in about 58.26 per cent. of total cases. The demand for information other than the origin of blood and semen in stains were also received. All these resulted in an over all increase in the technical as well as the clerical work of the Department.

The anti-serum required for the purpose were raised, as in previous years, in the laboratory by animal inoculations. A large quantity of different types of animal were required to be kept for this purpose. The production included 207 bottles of anti-human serum, 176 bottles of anti-ruminant serum and 158 bottles of anti-avian serum.

II. Venereal Serological Tests:

Besides, medico-legal analysis the Department also carried out tests for clinical purpose for Medical Institutions under the Government of West Bengal. During the year serological tests for Syphilis

were done on 8,708 serum samples. These included 4,445 Wasserman tests, 4,262 V.D.R.L. slide tests and 1 kahn test. The antigens and reagents required for this test were all prepared by this Department.

III. Manufacture of V.D.R.L. Antigen :

The manufacture of Cardiolipin and preparation of V.D.R.L. Antigen for Serodiagnosis of Syphilis were continued to be done by the Department. Standardisation of cardiolipin and the antigen were done both chemically and serologically before being issued for use. During the year 20,200 ampoules of the prepared antigen were issued to Medical Stores Depot, Calcutta for distribution to all over India and to South East Asian countries.

IV. Research Work :

The following research work were completed :

- (1) Cardiolipin like substances in peas and rabbit tissues, and
- (2) Factors responsible in Richardson's solution for preservation of complement.

The following research work were commenced after the assumption of charge by Dr. A. B. Roychowdhury :

- (1) Comparative study of the methods of blood group determination from stains ;
- (2) Interference of serological test from stains by oily substances ; and
- (3) Changes in immunity production after secondary stimulus.

V. Other Activities :

(i) *Teaching at School of Tropical Medicine*:—The usual courses of lectures and demonstration on Serology and Immunology were given to students preparing for D.T.M. & H. of Calcutta University and the L.T.M. classes of the faculty of Tropical Medicine and Hygiene of West Bengal at School of Tropical Medicine. A course of instruction on Serology to the students of D.C.P. classes of Calcutta University was also given.

(ii) *Lectures at Central Detective Training School, Intelligence Bureau, Ministry of Home Affairs, Government of India, Calcutta and Police Training College, Ministry of Home Affairs, Government of India, Mount Abu*: Lectures were given to trainees on Serology with particular stress on the role of Serologist with reference to police investigation of cases involving blood, semen, saliva, etc.

(iii) *Central Medico-legal Advisory Committee*: The Serologist by name was the *ex-officio* Chairman of the Committee. The 5th Session of the Committee was held at Calcutta on 7th and 8th March, 1960.

(iv) *Observation on Medico-legal work in India*: The Medico-legal analyses of blood and other stains on exhibits seized in connection with the prosecution of criminal cases for the detection of origin of blood etc., the principle activity of this department. This is a continuation of the examination to which these are subjected

in the first instance by the Chemical Examiners in the States. Portions of exhibits which are found to be blood or semen stained are forwarded by them to this Department for confirmation and detection of the origin and grouping. The result of examination carried out by the Department have high evidential value and are greatly valued by High Courts.

(v) *The working of Provincial Chemical Examiners:* The State Chemical Examiners, in addition to what have been stated above, have to undertake a large number of examination for detection and identification of poisons in cases of alleged poisoning and other miscellaneous examinations as well in certain other fields of State activities.

Table 69 shows the summary of the work done by the State Chemical Examiners and the Chemical Examiners in the Serologist's Department during the year 1960.

CHAPTER XII

PORT AND AIRPORT HEALTH ADMINISTRATION AND
QUARANTINE

(239—240)

PORT AND AIRPORT HEALTH ADMINISTRATION AND QUARANTINE

The health administration of seaports and airports is carried out under the Indian Port Health Rules, 1955 and the Indian Aircraft (Public Health) Rules, 1954, respectively. These rules are based on the International Sanitary Regulations and provide for measures to prevent the import and export of quarantinable diseases through sea and air traffic viz., plague, smallpox, cholera, yellow fever, louse-borne typhus and relapsing fever in particular and other infectious and communicable diseases in general. The implementation of these rules is the responsibility of our health organisations at the major ports of Bombay, Calcutta, Madras, Cochin, Visakhapatnam and Kandla, and the international airports of Bombay (Santa Cruz), Calcutta (Dum Dum), Delhi (Palam), Madras and Tiruchirappalli.

As the most important disease from the point of view of risk to India is yellow fever, special precautions are taken to prevent the entry of this disease into India through aerial and maritime traffic. All aircraft entering India from the West are disinfected as a routine measure if not already done so at Karachi airport (Pakistan). All persons arriving within 9 days of their departure from yellow fever infected areas without valid certificates of vaccination against yellow fever are detained in quarantine for appropriate periods. Monkeys being most prone to be reservoirs of yellow fever infection are not permitted to be brought to India unless covered by a certificate from the Governmental authorities of the country of shipment declaring that they have not been to any yellow fever infected area within 31 days of shipment. Those not covered by such a certificate are confiscated and destroyed.

Two new yellow fever Vaccination Centres were started at the Port Health Organisation, Madras and the Armed Forces M.I. Room, New Delhi with effect from the 17th August, 1960 and the 5th August, 1960 respectively. The Yellow Fever Vaccination and Storage Centre was shifted from the Haffkine Institute, Bombay to the All-India Institute of Hygiene and Public Health, Calcutta on the 1st October, 1960.

During the year under report, no ship or aircraft brought any case of quarantinable diseases. 50 infectious cases notified from ships were promptly attended to and precautionary measures taken by the health staff.

The sanitary condition of ports and airports and the areas abutting them remained fairly satisfactory throughout the year. Water supply was subjected to periodical bacteriological tests and found to be satisfactory. Sale of food-stuff and catering arrangements were inspected periodically and defects noted were corrected wherever possible by the authorities concerned. The port and airport health committees constituted for the co-ordination and better supervision and control of sanitation, anti-mosquito work, anti-rodent work etc., in the ports and airports and the surrounding areas functioned satisfactorily.

Pilgrim ships started leaving Bombay Port for Hedjas by about the third week of February and continued till the third week of May, 1960. There was one pre-Ramzan sailing this year. The total number of pilgrims who left Bombay for Hedjas by 14 pilgrim ships was 19,223. In addition, 174 pilgrims sailed on a passenger vessel on 16th February, 1960. No case of quarantinable diseases occurred during the voyage.

The total number of pilgrims who arrived in Bombay during the year by 13 vessels was 18,288. There were no cases of an infectious nature during the voyage.

The Ganga Sagar Mela was held from the 13th to 15th January, 1960. The usual sanitary arrangements were made by the Port Health Officer, Calcutta on behalf of the Government of West Bengal for the reception, embarkation and disembarkation of pilgrims at Outram Ghat. About 10,399 persons attended the Mela. Sanitation on board the vessels which carried pilgrims was checked by the Port Health Officer before embarkation was permitted.

The scheme of seamen's medical examination by Government doctors continued to work smoothly during the period under report.

The existing arrangements for treatment of seamen at major seaports were continued during the year without any modification. Out-door medical treatment facilities were available to seamen in the Seamen's clinics at Bombay and Calcutta. These clinics also carried out routine laboratory tests for those undergoing treatment there.

The activities of the various port and air port health organisations are presented in Tables 70, 71 and 72.

CHAPTER XIII

MEDICAL RESEARCH

1. Indian Council of Medical Research, New Delhi.
 2. Central Drugs Laboratory, Calcutta.
 3. School of Tropical Medicine, Calcutta.
 4. Vallabhbhai Patel Chest Institute, Delhi.
 5. Nutrition Research Laboratories, Hyderabad.
 6. Central Leprosy Teaching and Research Institute, Chingleput, Madras.
 7. Virus Research Centre, Poona.
 8. Haffkine Institute, Bombay.
 9. Pasteur Institute, Coonoor.
 10. B.C.G. Vaccine Laboratory, Guindy, Madras.
 11. Indian Cancer Research Centre, Bombay.
 12. The King Institute, Guindy, Madras.
 13. The Regional Research Laboratory, Jammu.
 14. Malaria Institute of India, Delhi.
 15. The Central Research Institute, Kasauli.
 16. All India Institute of Hygiene and Public Health, Calcutta.
 17. Central Institute of Research in Indigenous Systems of Medicine, Jamnagar.
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INDIAN COUNCIL OF MEDICAL RESEARCH, NEW DELHI

The year 1960 had been one of the considerable activities and substantial headway was also made in fulfilling the objectives of the Council, which, broadly speaking, are to stimulate and co-ordinate medical research on a countrywide basis and to extend and encourage research activities outside the established laboratories. This is reflected in the large number of research schemes financed by the Council and the number of teaching medical institutions participating in the overall research programme.

In the field of Communicable Diseases, Tuberculosis, Leprosy, Trachoma and certain Virus Diseases were given greater attention.

Tuberculosis :

With lengthy and expensive schedules of present day chemotherapy and with limited hospital facilities, the control of tuberculosis poses a real problem. As a result of studies carried out at the Council's T.B. Research Centre at Madras, it has been shown that domiciliary treatment of these cases is feasible. The studies have revealed that cases treated at home, in spite of poor diet, unsatisfactory environment, lack of rest and nursing care, possible irregularities in taking medicine, etc., responded as well as cases treated in Sanatoria. An important observation made was that the family contacts of the patients treated at home were exposed to no greater risk of infection than those treated in Sanatoria.

Active studies are also being carried out on a number of other problems like the efficacy of different regimes of domiciliary chemotherapy in comparison with each other, alternative chemotherapeutic regimes in the treatment of failure cases, the role of nutritional factors in the treatment and cure of tuberculosis, variation in tubercle bacilli isolated from Indian patients in respect of their virulence, PAS sensitivity, etc. Again as part of this project a biochemical study of the toxicity of high doses of isoniazid has also been undertaken.

Leprosy :

The Council is sponsoring a number of investigations on epidemiological, immunological and chemoprophylactic aspects of leprosy. The programme of investigations on the pathology of deformity in leprosy and the relationship between the fundamental pathology of deformity and the secondary exciting factors has continued. Notable progress has been made in devising new methods for the prevention of deformity by eliminating the immediate precipitating factors, which are mostly physical and mechanical in nature and for repair and reconstruction of deformed faces and limbs.

Evidence has been collected to show that experimental transmission of human leprosy to certain animals is possible.

Cholera :

Significant progress has been made in research on Cholera. Experimental evidence has been brought forth to suggest that extra cellular enzymes of cholera organism perhaps play some role in the

production of the disease. Genetic studies with different strains of cholera bacilli show the possibility of emergence of new strains. This finding has important epidemiological implications. The disease is now successfully produced in young rabbits thus making available technique for experimental research on effective therapy. Studies on immunological aspects with a view to improve the potency of currently available cholera vaccine are in progress.

Trachoma:

In the field of diseases causing blindness, the main researches financed by the Council are on the problem of trachoma. Poverty, low standard of living and environmental sanitation are attributed as the most important causes for the high incidence of the disease. A survey of the incidence of this disease covering nearly all the States in the country, has been made by the Trachoma Control Pilot Project, which is one of the projects financed by the Council. Field trials for mass campaign methodology in trachoma are in operation in States. Valuable experience has been gained from the therapeutic trials carried out with different antibiotic preparations and practical and economic schedules of treatment have been evolved. Health education programme in the States, where the field trial programme is in operation, is also being conducted. Besides, the Council has established a Trachoma Research Centre, the aim of which is to undertake research in trachoma and associated ocular infections.

Virus Diseases :

The year under review witnessed continued progress on research in the field of virus diseases. Mention has been made in the earlier reports of the serious public health problem, posed in certain districts of Mysore by the appearance of a fatal disease among monkeys and man, which was established to be due to a virus, transmitted by the bite of a tick. Attempts are continued to develop a suitable vaccine against this disease with the local strains.

A study was made of the outbreak of horse sickness, which was reported from Jaipur in April, 1960. A very large number of animals were affected. The Council's Virus Research Centre, Poona, helped in establishing the nature of the disease and its mode of transmission in these areas and in undertaking prompt measures for the control of the disease. Further work on the development of a suitable vaccine for immunising the animals exposed to the risk of infection is in progress.

The work of the Polio Research Unit at Bombay continued to develop satisfactorily during the year under report. Field and laboratory studies in connection with poliomyelitis undertaken under the auspices of the Council have helped to determine the pattern of distribution of polio viruses in India and to define the vulnerable population segments who need immunisation when proper vaccine is available. As a result of the studies carried out, it has been established that all the three types of polio viruses are present in the country. It has also been observed that over 90 per cent. of children of low income group develop antibodies against all the three types of poliomyelitis viruses by the time they attain the age of five years, while children of higher socio-economic groups develop such immunity much later.

Environmental Hygiene and Sanitation :

The prevalence of the communicable diseases in the country can be attributed largely to bad environmental sanitation. In the field of environmental sanitation a fairly detailed study has been made of the rural water supplies, hygienic disposal of excreta in rural areas and disposal of wastes from a number of industries in the country.

Industrial Health :

Investigations on industrial health physics, industrial physiology and industrial psychology have been pursued.

Nutrition :

The major activities of the Council were in the field of nutritional research. In the field of malnutrition, applied research of direct public health importance as well as fundamental research are being continually pursued. The extent of the problem of protein malnutrition among the States of West Bengal, Assam, Andhra Pradesh, Madras, Kerala and Mysore and of goitre in the Sub-Himalayan States has been studied by extensive surveys carried out in the Second Five Year Plan period. For the cure and prevention of protein malnutrition, suitable mixtures of vegetable protein foods of local origin have been worked out. Field trials with iodated salts in the prevention of goitre have been encouraging. Attempts are now being directed to tackle other major nutritional problems like anaemias and vitamin A deficiency.

Maternal and Child Health :

The Council has made significant contributions by promoting research with a view to determining the nature and extent of major health problems in the field of maternal and child health. Problems associated with maternal mortality and morbidity particularly anaemias and toxæmies of pregnancy are being investigated in detail. A study was undertaken to determine the level of female sex hormones in normal pregnancy and menstrual cycle and to correlate them with abnormal pregnancies and with different gynaecological cases. The problem of worm infestation among children under five years of age has also been studied. The nutritional requirements of pregnant and lactating women, the lactational performance of Indian women, the extent of protein deficiency and other nutritional disorders in young children and the possible means of preventing them are being actively investigated.

A fairly detailed study has been carried out of the distribution of Rh group and the extent to which Rh isoimmunization was responsible for neonatal morbidity and mortality.

Research on Scientific Aspects of Family Planning

The Council carried out during the year several studies on spermicidal drugs and contraceptives. A detailed follow up study of women having sterilization operations was also undertaken. Field studies to assess the acceptability of foam tablets and other contraceptives amongst rural population, the effectiveness of these in controlling fertility, the attitude of the rural population towards family planning etc., formed the core of the research activities of the Council in this field.

Drug Research :

During the year under report a large number of indigenous medicinal plants were investigated. Useful fundamental research on the functions of the central nervous system particularly the limbic system, has helped to elucidate the role of different nerve centres in visceral, autonomic, endocrinal and behavioural functions of the body. Investigations are now in progress to determine the afferent and efferent pathways of certain regions of the limbic system which, in earlier experiments, have been shown to influence the heart rate, blood pressure and vascular tone.

Some observations have been made on physiological changes in the body of yogis as a result of yogic practices. It has been observed that in meditation the various sensory stimuli arising out of touch, pressure, temperature, loud sound, strong light, vibration etc., are effectively blocked in case of yogis.

Cardiovascular Diseases :

The Council continued during the year to support research on some important aspects of cardiovascular diseases viz., its incidence in the communities and the factors responsible for its causation. Epidemiological surveys of the population groups for evidence of signs suggestive of heart diseases, analysis of hospital records and a planned study of the routine autopsies in order to determine the prevalence rate of the disease have been undertaken. The possibility of reviving the blood supply to an infarcted area of the heart muscle by implanation operations is being studied in animals after inducing infarction by experimental measures.

The Liver Diseases Research Unit of the Council is currently engaged in studies on the pathogenesis of ascites in human liver cirrhosis. Studies are under way to find out the role of mast cells and permeability factors in the pathogenesis of ascitas in human liver cirrhosis. The Council's Neurology Unit at Bombay, established with the specific objective of pursuing specialised research in neuropathological problems and to render technical and consultant service to other institutes on problems falling in this field, continued to make satisfactory progress during the year covered by this report.

Successful transmission of amoebiasis to laboratory animals, elucidation of the possible role played by animal filariasis in the causation of Tropical Eosinophilia in man, identification of some of the differences in the metabolic pathways of normal and cancerous cells etc., are examples of other studies in the field of clinical medicine.

Mental Health :

The Council continued to finance research schemes in the field of mental health. These included, among others, an enquiry into psychological factors related to adolescent adjustment, a study to establish the validity and reliability of sedation threshold test in diagnosis and prognosis of certain psychiatric entities.

Dental Health :

Research effort in the field of dental health has been directed towards the elucidation of the problems of periodontal disease in the country.

A scheme financed by the Council to assess the incidence of dental decay and periodontal disease in relation to the dietary habits and habits of taking sweets and sugary foods, among children of 12 to 16 years of age belonging to different states living in cosmopolitan city of Delhi, was continued during the year under review. The enquiry on the flourine content of foodstuffs was continued. Condiments, edible roots like potato, beet root, colacasia were analysed and their flourine content determined.

Morbidity Survey :

For the successful and efficient planning of health services in the country, it is very important to know, in as precise terms as possible, the requirements in this regard. These requirements would be in relation to the quantum of sickness in the country. A survey has accordingly been started by the Council, on a pilot basis, to obtain a picture of the morbidity pattern of the Central Government employees and their families belonging to different socio-economic groups. The objectives of this survey are threefold, firstly, to obtain a clear picture of the morbidity pattern of the community under study and its relation to socio-economic conditions, secondly to utilise the information so obtained for a rational appreciation of the needs of the Contributory Health Service Scheme and thirdly to extend the methodology developed to wider areas for undertaking a survey on a national basis. Such a study can be of far reaching consequence in developing the future lines of policy in regard to health services in urban areas.

Training :

In order to build up its potential of research personnel, particularly in medical colleges, the Council is continuing to train research workers by a system of fellowships.

Publications :

The two journals viz., the Indian Journal of Medical Research and the Indian Journal of Malariology and other special reports and publications brought out by the Council, continued to serve a useful purpose.

CENTRAL DRUGS LABORATORY, CALCUTTA

The functions of the Central Drugs Laboratory include testing samples of imported drugs sent to it by the Drugs Control authorities at the ports of entry and also acting as an appellate testing body in matters relating to standard of drugs. In addition to these functions the Central Drugs Laboratory also carries out the functions of Government Analyst under the Drugs Act for the State of Assam, Bihar, Kerala, Madhya Pradesh, Mysore, Orissa, Punjab, Uttar Pradesh, Delhi, Himachal Pradesh, Manipur, Tripura and Union Territories of Laccadive, Minicoy and Amindivi Islands. The Central Drugs Laboratory also analysed a large number of samples of drugs sent by the Medical Store Depot Units of the country.

In addition to the routine functions of the laboratory, the Central Drugs Laboratory also undertook a variety of research work. Of particular interest is the study of stability of vitamins, antibiotics, liver extracts (crude), digitalis and posterior pituitary powder stored

under different storage conditions. The analysis of results have shown certain trends in the rate of deterioration of some of these drugs and their formulations. Such studies will be invaluable in establishing a minimum period of shelf life for such drugs and their formulations. Various other problems were tackled during the year a brief resume of the research activities of the various Departments of the Laboratory is given below :

(a) Stability studies :

Studies on stability of vitamins, antibiotics, liver extract, digitalis and posterior pituitary powder, when stored under different conditions in the laboratory, were continued during the year. The analysis of results have shown certain trends in the rate of deterioration of some of these drugs and their formulations. Such studies will be invaluable in establishing a minimum period of rack life for which these formulations could be expected to retain their potency.

(b) Pharmaceutical Chemistry :

Several problems dealing with analysis of essential oils, alcoholic tinctures and patent or proprietary drugs have been successfully tackled in order to enable this laboratory carry out its statutory functions satisfactorily. Special attention has been paid to the estimation of mercurial anti-septics as present in modern contraceptive preparations. Similarly, a method has been established for the estimation of alkylphenoxy-polyethoxyethanol type of spermicides in modern contraceptive jelly and cream preparations. Analysis of such patent or proprietary drugs was greatly handicapped otherwise. The availability of the present method permitted this laboratory to have a greater control over the quality of such preparations.

(c) Biochemistry :

Studies on chromatographic separation and spectrophotometric estimation of vitamin A and E in various cod and shark liver oils obtained from different sources were continued. Different methods for the analysis of insulin and steroid hormones have also been investigated and several improvements made in the existing techniques.

(d) Pharmacology :

Spermicidal activities of several pure compounds of alkylphenoxy-polyethoxyethanol type and certain proprietary jelly and cream preparations have been investigated. Studies on the effect of androgen in experimental anaemias have indicated its possible effect on the bone marrow cells. Investigations on the role of hormones in allergy have shown its effect in controlling release of histamine.

(e) Bacteriology :

Comparative studies of phenol coefficient values of black coal tar disinfectants and stability of such formulations have been made in detail.

(f) Pharmacognosy :

Pharmacognostic studies of a large number of indigenous vegetable drugs were undertaken. Analytical studies and chemical methods of analysis were also conducted on several pharmacopoeial tinctures, for which no suitable method of analysis was hitherto available.

(g) National Reference standards :

Work on the establishment of National Reference Standards for antibiotics, digitalis and posterior pituitary powder were continued during this period.

(h) Training :

One candidate from the pharmaceutical industry and another from the Department of Pharmacy, University of Saugar were trained in this laboratory during the year under review.

Testing of Samples :

During the year under report 3,597 samples of drugs were received at the Central Drugs Laboratory, Calcutta for analysis from various sources, 3,136 samples were tested and 2,695 samples were found to be of standard quality. The corresponding figures for the previous year were 2,892 samples received, 2,753 tested and 2,394 of standard quality. Number of samples received in the current year was about 25 per cent. more than that in the previous year. About 75 per cent. of the samples tested were of standard quality, the percentage being the same as in the previous year. The details of analysis of the drugs received from various sources and analysed by the various Departments of the Laboratory are shown in Table 73. A large number of drug samples continued to be received for testing at the Central Drugs Laboratory, Calcutta from the Medical Stores Depots. Only one sample was referred to by the Court of Law for analysis during the year 1960.

SCHOOL OF TROPICAL MEDICINE, CALCUTTA

In the year 1960, the School of Tropical Medicine, Calcutta continued its extensive activities on research, post-graduate teaching and medical relief. The brief outline of important research activities on different projects during the year is stated below.

The pattern of nutritional disorder resulting from a combination of severe protein-cum-caloric deficiency and infection allowed itself to be grouped as the fatty type and the wasted type; the former being kwashiorkor with or without dermatosis, while the latter appeared as either marasmus with emaciation only or as marasmic kwashiorkor with wasting and oedema. Follow-up studies showed that the course of the disease might bring about a conversion of the fatty type to the wasted one. Nitrogen balance studies disclosed no significant impairment of absorption except in cases with diarrhoea and heavy round worm infestation. A number of vegetable preparations were subjected to clinical trials as a part of the Second Five Year Plan under the auspices of the Indian Council of Medical Research. These supplementary protein food of vegetable origin were effective, though the rate of regeneration of serum albumin is rather slow as compared to milk. Hypereosinophilia without any pulmonary manifestations was noted in a host of other conditions with no suggestion of a relationship between the two.

A single dose tolbutamide test was worked out which appeared to be a satisfactory index to choose out diabetic subjects suitable for treatment with oral sulphonylurea compound. Hereditary diathesis in the occurrence of diabetes mellitus was investigated.

A clinico-epidemiological exploration into the outbreak of lathyrism in a rural area of West Bengal provided informations of interest and importance. While consumption of de-husked 'Khesari' (*Lathyrus*) seemed to be an important predisposing factor, the preliminary observations brought about the suspicion of an antigen antibody reaction to be responsible for the clinical explosion.

Treatment of allergic patients with anti-allergic serum floccule was continued. 67 patients received the therapy during the year.

44 strains of various organisms like *Staph. aureus*, *Str. pyogenes*, *E. coli*, *Kleb. pneumoniae*, *Ps. pyocyanea*, *Proteus vulgaris*, *Proteus mirabilis* and *Str. faecalis* isolated from patients were tested for their sensitivity to prevalent antibiotics.

Faecal bacterial flora in 27 cases of para-sitologically diagnosed amoebiasis was studied. 5 of these patients received treatment with broad-spectrum antibiotics. Culture of 101 samples of faeces prior to any medication revealed presence of some potential pathogens in some samples besides the normal inhabitants. Many such abnormal bacterial showed vulnerability to broad-spectrum antibiotics.

In the Protozoology Section it was gathered that giardial infection was more common in age group between one to fifteen years (20 per cent.) and then declined with the advancement of age. The percentage of infection with *Entamoeba histolytica* was almost the same (3.9 to 4.7 per cent.) in all the age groups (one year to 31 years) and above except that in children below one year in age no E.U. infection was encountered. Mixed infection with *Giardia* and *E. histolytica* was more common among children of one to fifteen years (5.3 per cent.) as compared to those above 16 years (0.5 per cent.) and above 31 years (0.2 per cent.).

Giardia caviae was encountered in the gut of a guinea pig. This finding forms the second record in the world, the first one being that of Wenrich in 1922 from U.S.A. Cysts of this giardia have for the first time being seen in this laboratory.

Prothedium when administered in sublethal doses to rats artificially infected with *Trypanosoma evansi*, it produced a strain of *T. evansi* which was devoid of kinetoplast. As a result of this morphological abnormality, the rate of multiplication of the flagellate was reduced accompanied by a prolonged survival time of the host.

For rapidly staining of *Leptospira* in smears Chatterjee's method, originally described by Ray (1944) for staining intestinal flagellates, was employed with certain modifications. Besides saving time this method maintained the morphological features of the organism.

The toxic action of Quinine sulphate and Quinine bisulphate on mosquito larva were studied in the laboratory and it was found that the toxicity of Quinine salts to mosquito larva was negligible.

After finding out that the normal development of *Culex fatigans* larva occurs in breeding medium having pH between 7.2 and 7.8 at a temperature 90/95°F, experiments were carried out in the laboratory to study the development of these larvae by altering the pH of the breeding fluids. It was noticed that 100 per cent. larval mortality occurred within a short time in fluids with pH 3.5 acidulated by Conc. HCl, in fluids with pH 6.5 acidulated by Conc.

H_2SO_4 and in fluids with pH 8.5 or 9 alkalinised by saturated solution of KOH. It was therefore concluded that it is possible to control the breeding of *Culex fatigans* by changing the pH of the breeding medium and a relatively inexpensive acid like Conc. H_2SO_4 may prove suitable for large scale use.

In the Section of Pharmacology the studies on antidiuretic activity of the indigenous anti-diabetic plants and investigation into the mechanism of action of some Rauwolfia alkaloids on blood sugar continued.

Work on Diosgenin under the Council of Scientific and Industrial Research based on the observation made in the last year it was possible to devise a method for the preparation of epi-smilagenin and smilagenone from Dioscorea saponin. In boiling *para*-cymene in presence of Raney nickel, diosgenin was found to yield tigogenone and disogenone depending on the proportion of this Catalyst used.

A simple method has been devised for isolation of echitamine from Dita-bark.

An improved method for the synthesis of arboricine, 1-methyl-3-phenyl-carbostyryl, a degradation product of the alkaloid, arborine, has been devised by carrying out the heating of an equimolecular mixture of methylaniline and ethyl phenylmalonate in boiling *para*-cymene (yield, about 75 per cent.). Another method for the synthesis of arboricine has been developed by heating an equimolecular mixture of ethyl N-methylantranilate and ethyl phenylacetate with one atom of sodium in a suitable solvent.

As in previous years assays of various plant specimens received from the plantations at Rongo under the Directorate of Medicinal Plants have been carried out. These included *Ipecac*, *Digitalis purpurea*, *Eupatorium ayapana*, *Datura metal*, *Acorus calamus*, *Eucalyptus globulus*, *Maranta arundinacea* etc.

In the Section of Biochemistry, (1) the study on urease from *Cajanus cajan* (Red gram) and (2) Study on phosphatase from *Phaseolus vulgaris* (French bean) were continued.

The work on fish protein reported last year was continued by preparing protein-rich fish flour from the muscles of Boal fish (*Walgonia attu*) and hammerhead shark (*Zygoena blochii*), the latter being a waste product. The protein content of this odourless and tasteless fish flour was more than 95 per cent. To make edible biscuits, suitable quantities of wheat flour, sugar and hydrogenated fat were mixed and baked with ammonium carbonate as the baking agent. The test of the biscuit was well maintained even by raising the protein content of the biscuits to 40 per cent.

In the work on clinical biochemistry; (1) Estimation of chloride in C.S. fluid, (2) Effect of dilution on the alkaline phosphatase activity of human serum, (3) Estimation of blood non-protein nitrogen, (4) Conversion of the result of thymol turbidity from one temperature to another.

Dietary inadequacy of Vitamin B_{12} and/or folic acid was confirmed to be the chief factor in the aetiopathogenesis of nutritional macrocytic anaemia. The value of total serum Vitamin B_{12} was less in the vegetarian than that in the non-vegetarian. Indian way of

cooking led to considerable loss of folic acid available through diet. The free of unbound fraction of serum vitamin B₁₂ was found to be high in aplastic anaemia, acute myeloid leukaemia and erythroleukaemia. Pathogenesis of anaemia in Hb.H thalassaemia disease was critically studied from the aspects of stability of circulatory red cells, radio chromium survival of red cells, radio iron utilisation, glutathione stability and relevant enzymatic constituents of red cells. Approximately 5 per cent. of local Bengali population was found to have a deficiency of the enzyme, glucose-6-phosphate-dehydrogenase in red cells. A coagulation factor with antihaemophilic globulin like activity was demonstrated in saliva, gastric juice and amniotic fluid.

Studies on Spleen and liver in aplastic anaemia. Effect of radiant heat on fertility of guinea pigs, Histochemical study of adenoma sebaceum. The adrenals obtained at autopsy from 7 cases of kwashiorkor, 5 of marasmic kwashiorkor and 2 of marasmus were studied histologically and histochemically.

- (a) depletion of lipoids in zona fasciculata either in patches or generalised,
- (b) negative or faint reaction for Ketosteroids,
- (c) normal reaction for ascorbic acid in the cortex and medulla,
- (d) more or less normal reaction for *nor* adrenaline, and
- (e) normal reaction for glycogen, alkaline phosphatase, aldehyde and sulphydril containing protein.

A stain could be prepared from the heart wood of the common 'red sandal wood'. This was found to be useful for staining elastic tissue fibres in the walls of the arteries, in the skin and elsewhere.

A new experimental technique has been devised which makes the mosquito feeding possible with anticoagulant treated stored blood containing living microfilariae through a rubber sheet of suitable thickness.

The share of helminthic parasites of upper intestinal tract, viz., hookworms, and *Strongyloides stercoralis*, in the pathogenesis of duodenal ulcer has been carefully assessed. Human infection with the dog tape worm, *D. canium* was recorded for the first time in India.

To study the role of heredity in leucoderma, the data collected have been statistically analysed with the help of statistical department of All India Institute of Hygiene and Public Health, Calcutta. The incidence of children of affected patients is greater than of average children of normal people. To determine the extent of parasitic infestation in different skin diseases the investigative study have been further continued.

Investigation of the in vitro effect of *Diamino-diphenyl sulphone*, *diamino-diphenyl sulphide* and *dinitro-diphenyl sulphide* on Kedrosky's bacillus showed that all the three compounds have a bacteriostatic action in dilutions of 1 in 20,000 to 1 in 160,000.

Angiographic studies in tuberculoid leprosy revealed a vascular stasis in the digits when followed upto 30 seconds.

Leukaemia cases were treated with radiation alone or in combination with chemotherapeutic agents. Initial dose of 900r almost

always creates a sense of "well being" in the patient and the spleen gets diminished in size. When radioresistance develops chemotherapeutic drugs may prolong the life for some time more.

VALLABHBHAI PATEL CHEST INSTITUTE, DELHI

The Vallabhbhai Patel Chest Institute was established by the University of Delhi with a grant from the Government of India. It was formally opened in January, 1953. The administration and management of the Institute is vested in a Governing Body constituted by the Executive Council of the University of Delhi. Three meetings of the Governing Body were held during the year under review.

Research on the following projects was in progress during 1960 :—

1. Objective differentiation between chronic bronchitis and emphysema by pulmonary function test.
2. Vascular pressure studies in pulmonary diseases by cardiac catheterisation.
3. Experimental pulmonary hypertension.
4. Evaluation of IPPB in the treatment of Emphysema.
5. Clinico-pathological study of Bronchiectasis.
6. Pathogenesis of Emphysema—A Clinico-pathological study.
7. Immunological study of sputum and estimation of Creative protein in respiratory allergy and chronic infections of the upper respiratory tract.
8. The role of endocrines in allergy.
9. Cultural collection and differential analysis of Indian mycobacteria.
10. Incidence of Kiebsiella in throats of normal population.
11. Incidence of Candida species in throat swab and also in sputum in bronchopulmonary diseases.
12. Histoplasmin survey in Delhi and Greater Delhi.
13. Allergic reaction due to streptomycin corroboration of clinical findings with streptomycin skin test.
14. Pulmonary eosinophilosis and the role of eosinophil cells.
15. Sensitivity of Indian strains to tubercle bacilli for compound 1314.
16. Effect of ambulation in experimental tuberculosis.
17. Fatty acid metabolism on experimental tuberculosis.
18. Iodine metabolism in human tuberculosis.
19. Study of blood volume using iodinated human serum albumen.
20. Paper electrophoresis of serum protein as a potential prognostic aid in tuberculosis.

21. Pathological changes in the liver of wild rats in Delhi pathological studies.
22. Early tissue reaction in guinea pig lungs to the introduction of liver virulent tubercle bacilli by the nasal route in vaccinated and non-vaccinated animals.
23. Histopathological study of bronchiectatic lung.
24. Pathogenesis of emphysema—an experimental study in guinea pigs.
25. A histopathological study of resected tuberculous lungs.
26. Animal reservoir of pathogenic fungi.
27. Study of dermatophytes from soil.
28. Comparison of open circuit and closed circuit method for finding of functional residual capacity.
29. Pulmonary function study in cases of chronic and perennial bronchial asthma.
30. Metabolism of radio active acetate in experimental tuberculosis.

In addition to the above research projects, work on the following research schemes sanctioned by the Indian Council of Medical Research, New Delhi, was in progress:—

1. Bagassosis.
2. Byssinosis.
3. Pharmacological studies of a new anti-tubercular antibiotic.
4. Biochemical characterisation of various strains of tubercle bacilli with respect to amino acids, fatty acids, and nucleic acids.

The following research schemes sanctioned by the Council of Scientific and Industrial Research, New Delhi, were conducted in the Institute :—

1. Preparation and biological testing of Usnic Acid—its derivatives for therapy in tuberculosis.
2. To find out a cheaper and better medium for a new anti-tubercular antibiotic.

Training :

The 14th post-graduate Diploma course in Tuberculosis Diseases (D.T.D.) which has been changed by the University of Delhi to the Diploma in Tuberculosis and Chest Diseases (D.T.C.D.) commenced from the 11th January, 1960, with 19 students from various parts of the country. 15 students passed the examination.

The fourth Medical Laboratory Technology course (M.L.T.) commenced on the 16th July, 1960, with 10 students from different parts of the country. Out of 7 regular students admitted to the course in 1959 and 3 ex-students, who appeared for the examination in June 1960, eight were declared successful.

The Institute continued to provide facilities for research to post-graduates registered at the University of Delhi. During the year under review eight students including six nominated by the Central Government either in 1959 or earlier for research work and M.D. submitted their thesis for M.D. (Medicine) in October 1960. During the year 1960, three candidates were nominated by the Central Government for M.D. course and three for research in Tuberculosis. Four persons who registered themselves for the Ph.D. degree of the University of Delhi in Medicine, Biochemistry, Mycology and Botany last year continued their research studies in the Institute. During the year under review two candidates working in research sections of the Institute registered themselves for the Ph.D. degree of the University of Delhi in Biochemistry. One student for M.Sc. (Bacteriology) and another for M.Sc. (Medical Biochemistry) were admitted in July 1960.

The Council of Scientific and Industrial Research, New Delhi sanctioned two Junior Research Fellowships, one in Medical Mycology and one in Medical Botany. The Council also sanctioned a grant for the research project "to find out cheaper and better medium for a new anti-tubercular antibiotic." The Indian Council of Medical Research, New Delhi, sanctioned a Research Fellowship in Biochemistry. The Ministry of Scientific Research and Cultural Affairs, New Delhi, sanctioned two research fellowships during the year under review. M/s. Roche (Pvt.) Ltd., Bombay, gave a grant for one Research Fellowship. The Department of Health, Education and Welfare, National Institute of Health, Maryland, U.S.A., sanctioned a research grant for the project "Carbohydrate Metabolism in Tuberculosis". M/s. Hindustan Lever Ltd., Bombay, also gave a grant for a research project on "Role of dietary fats and proteins on serum lipids lipo-proteins and atherosclerosis".

The Clinical Research Centre continued to provide facilities not only for research but also for post-graduate teaching in chest diseases. The training programme has been intensified because of the fact that the University has expanded the course of training to include all chest diseases. Since there is no other Institution in Delhi exclusively devoted to chest diseases, most of the training in non-tuberculous chest diseases has necessarily to be given at the centre. The Diagnostic Section of the centre, therefore, is taking in more cases than before in order to facilitate the training programme. A Cardiac Clinic has also been added for the same purpose and caters largely to pulmonary heart diseases. The total number of new patients seen during the year in the Diagnostic and cardiac clinic was 1,064. The attendance including old and new was 8,451.

The work in Respiratory Allergy Section started as an essentially research programme had soon to be changed to one of research-cum-Service programme.

The Cardiac Clinic Section has been working from January 1960. The total number of cases seen in this Clinic was 42 and the total attendance was 259. Investigations included ECG, Cardiac Catheterisation, Estimation of Cardiac output and Blood Gas Analysis.

Nineteen research papers were published during the year under report.

NUTRITION RESEARCH LABORATORIES, HYDERABAD

The Indian Council of Medical Research has been sponsoring a very comprehensive programme of research in the field of nutrition over several years. The work of the Nutrition Research Laboratories continued along several fronts and expanded during the year under review. The work is of both fundamental and applied significance and has been pursued in the field, clinic and laboratory; thus setting a fine example of the synthesis of basic and applied sciences.

Studies on Proteins :

The carcasses of groups of rats, kept on protein-free or skim milk or wheat-redgram-amaranth diets were analysed. While gain in body weight was nearly the same with skim milk or vegetable protein mixture, the animals on skim milk contained higher water and less fat than their counterparts on vegetable protein diet. In the initial stages of protein depletion, an increase in fat together with a fall in water content was observed; this was reversed later. If expressed on a fat-free basis, the moisture and protein content were remarkably constant in all the groups.

In guinea-pigs, unlike in rats, red blood cells were found to be the major site of biosynthesis of pyridine nucleotides; hence the DPN metabolism in this species was studied. The results indicate that only liver and blood DPN were reduced considerably in protein deficiency but kidney and heart DPN remained unaffected.

Studies on Vitamins :

The effect of low and high fat diets on the biosynthesis of riboflavin and the availability of the vitamin thus synthesised were investigated. Young rats were kept for five weeks on diets low or high in fat with and without riboflavin and sulphasuxidine. The urinary and faecal excretion of riboflavin by the animals as well as the total riboflavin, FAD and xanthine oxidase activity of the livers and the weight and riboflavin content of the caeca of the animals were examined. The observations suggest that high-starch diets favour biosynthesis of riboflavin in the gut; probably the site of biosynthesis is the caecum. The results prove that biosynthesised riboflavin is available to the body, thus reducing the exogenous requirements. Sulphasuxidine may not have much effect on the riboflavin synthesising bacteria of the gut.

It was reported earlier that xanthine oxidase activity of liver was reduced by changing the level of riboflavin from an optimum of 365 ug. per 100 g. diet. It has now been found that riboflavin level in the diet did not influence the FMN concentration in liver. The FAD increased but the xanthine oxidase decreased gradually when the dietary level of riboflavin was increased gradually.

With low intake of proteins, excessive intake of riboflavin without concomitant increase of other B vitamins may cause an imbalance leading to depressed xanthine oxidase activity and improper utilisation of riboflavin.

The vitamin B₁₂ content of livers and serum after prevention of coprophagy of rats subsisting on vegetable protein diets was studied.

When coprophagy was prevented, there was a reduction in haemoglobin, R.B.C. and true vitamin B₁₂ content of the liver but the content of alkali stable factor in liver increased appreciably. In caeectomized animals, though there was slight decrease in the liver vitamin B₁₂ values, there was no significant change in the blood picture suggesting that portions of the gastrointestinal tract other than caecum might be sites of synthesis which would supply enough vitamin B₁₂ to meet the animal's requirements.

The changes in the levels of calcium, phosphorus and citrate in rachitic serum before and after vitamin D administration depended on the dietary levels of calcium and inorganic phosphorus. In the epiphyseal cartilage, however, the levels of these substances and the citrogenase activity depended only on dietary deficiency of vitamin D and not on the phosphorus and calcium levels in the diet.

Studies on Fats :

The trans-octadecenoic acids in different market samples of Vanaspati estimated by the infrared method was found to be of the order of 50-55 per cent. of the total fat.

Clinical Investigations

Leucine and Pellagra :

The possibility of an amino-acid imbalance resulting from excessive intake of leucine derived from jowar a staple cereal in Hyderabad, in the pathogenesis of pellagra has been investigated. On diets marginal in protein, leucine supplementation or a change-over from rice and wheat to jowar has been found to result in increased elimination of urinary N-methylnicotinamide (NMN) suggesting a chronic depletion of nicotinic acid from the tissues. Simultaneous administration of dl-isoleucine does not appear to correct the increased excretion of NMN brought about by leucine.

Kwashiorkor in Hyderabad and Coonoor :

A comparative study of kwashiorkor with 107 cases in Hyderabad and 207 in Coonoor has been made. A slight difference in age incidence and delayed supplementary feeding which chiefly gruel made from jowar and rice were observed in Hyderabad. Prolonged breast feeding was common in both places. A larger incidence of skin lesions, anemia, infective diarrhoea etc., was seen in Hyderabad.

A high incidence of keratomalacia and lower intake of carotene and vitamin A by pregnant women in Hyderabad have been observed.

Vitamin A deficiency in children :

The severity of signs of vitamin A deficiency in Hyderabad and Coonoor was compared in relation to the dietary intake of carotene and vitamin A. The effect of kwashiorkor with or without vitamin A deficiency was studied in respect of the ability of lysed R.B.C. cells to destroy vitamin A in vitro. In kwashiorkor, high protein feeding helped to increase serum vitamin A. The destruction of vitamin A by lysed cells was lower after treatment with vitamin A.

Phrynoderma :

Studies on sixty-three cases of phrynoderma (Hyperkeratosis follicularis) showed the incidence to be the highest in children between 6 to 10 years. Groups of patients were treated with safflower oil emulsion (as a source of polyunsaturated fatty acids), B-complex vitamins and pyridoxine singly or in combination. The clinical response and biochemical constituents in serum were determined. These studies showed that phrynoderma is a manifestation of essential fatty acid deficiency and that B-complex deficiency may be a contributory factor.

Diet, serum cholesterol and blood pressure levels in some population groups :

Observations were made on 722 healthy males above 20 years drawn from civilians and Defence Service personnel in the Nilgiris and Trivandrum. Serum cholesterol levels in civilians of low income groups and in other ranks of the services were lower, irrespective of the type of fat consumed. Blood pressure and serum cholesterol increased with advancing age in high income groups.

Effect of some supplements and mode of feeding of fats on the plasma fibrinolytic activity in monkeys :

Supplementation of high fat diets with cholesterol or an adrenergic blocking agent (dibenzylamine) as well as "inter-mittent" high fat feeding viz., feeding 70 per cent of the diet at one stroke and the rest later resulted in depressed (FIBRINOLYTIC) fibrinolytic activity than when high-fat diet was made continuously available to the animal.

Studies on Human Lactation :

The activities of xanthine oxidase and alkaline phosphatase in breast milk at different periods of lactation were determined and their relation to the total protein, riboflavin and thiamine contents of the milk studied.

Protein supplementation to the poor diets of mothers of lower socio-economic groups brought about a significant fall in the creatine but not creatinine concentration of the breast milk; the concentration in serum of these constituents was not affected.

Field Investigations

The Field Units :

Two centres, one each in the urban area and rural area have been established to get base line information on economic and living conditions of the people, morbidity and mortality rates, dietary habits and practices etc. The urban field centre comprises four slum areas of Secunderabad and the rural centre consists of two villages about 20 miles from Hyderabad. A socio-economic study followed by a survey of dietary habits and practices in the rural centre has been carried out. The survey revealed that while economic factors were of major importance in unsatisfactory dietaries, ignorance and prejudice also played a part.

Anaemia in Indian women of child bearing age and Children :

Investigations to define the general incidence and frequency of different types of anaemia among women and children by a preliminary haemoglobin survey on 774 subjects and an examination of haematological indices in a selected sub-sample were undertaken in the urban centre. The role of parasitic infestation in anaemia in this region appeared to be not important.

Investigations on angular stomatitis :

The incidence of corneal vascularisation in cases of angular stomatitis and the response to treatment with B vitamins is under study.

Studies on Growth :

2,231 children from Madras and Hyderabad cities were examined during the year. The anthropometric measurements taken included height, sitting height, body weight, hip width, head and chest circumference. Information on age and order of appearance of puberty signs was also collected. Reliance was placed only on documentary evidence for verifying the age. The trend of data obtained thus far bear out the findings of earlier years that children from urban areas were physically superior to those from semi-urban and rural areas.

CENTRAL LEPROSY TEACHING AND RESEARCH INSTITUTE, CHINGLEPUT, MADRAS

The Institute comprises of the former Lady Willingdon Leprosy Sanatorium at Tirumani, Chingleput district and the Silver Jubilee Children's Clinic at Saidapet in Madras State.

The activities of the Institute include treatment of inpatients and out-patients, research, teaching, physiotherapy and welfare-cum-occupational activities for the in-patients, which are detailed below:—

I. Treatment of in-patients :

The total bed strength continues to be 884 (men-454, women-118, boys-200, girls-30, private quarters-17 and hospital-65). All the in-patients, excepting those admitted temporarily for the relief of acute symptoms, are treated with the parent sulphone (DDS) by mouth. Intradermal injections of esters of hydnocarpus oil are given to the patients with residual hypopigmented patches over the body.

During the year 1960, the number of in-patients treated was 1,401. In the hospital section patients are admitted into the wards from blocks and dormitories for treatment of severe lepra reactions, trophic ulcers etc., and for other inter current diseases. These wards are also admitting patients from outside for temporary alleviation of routine ailments, in particular trophic ulcers and severe reactions. 756 cases were treated in the hospital wards and 189 operations were performed during the year covered by this report.

40 leprosy patients suffering from tuberculosis were treated during the year with special sanatorium line of treatment for tuberculosis combined with the routine treatment for leprosy. Of these, 19 were discharged as cured, 2 died and the remaining 19 are improving under treatment.

During the year a very useful addition to the activities of the clinic at Saidapet was the provision of a ten bedded ward for temporary hospitalisation of patients suffering from acute complications and intercurrent illnesses. During the year 59 cases were admitted for the treatment of such cases.

II. Treatment of out-patients :

The Institute at Tirumani:—At this Institute 689 cases attended for out-patient treatment and the average attendance on clinic days was 222.

The Mobile Unit :—The activities of the Mobile Treatment Unit continued to show steady improvement during the year 1960. At the end of the year the Unit, which is equipped with a vehicle and a staff consisting of Medical Officer, Health Visitor, Nursing Orderly and Driver, was running 16 clinics directly under it and helping 2 clinics run by the local bodies. At the clinics run directly by the Unit the total number of patients registered for treatment was 1,954. These patients came from 404 villages or hamlets covering a population of 2,62,048 spread over an area of nearly 500 sq. miles. 47.6 per cent. of the registered cases attended either regularly or fairly regularly throughout the year.

The village visiting work started by the Unit in 1958 for the purpose of improving the attendance at the clinics and examining contacts of patients was continued, and areas covered by two clinics were surveyed during the year covering a population of about 23,500 in 32 villages. In all 84 cases were detected during the visits and the prevalence of the disease in one area (Nerumbur) was found to be 2.3 per cent. and in another area (Sadras) 1.01 per cent. By these village visits it was possible to bring under treatment a large number of early cases and also make the people leprosy conscious.

The Saidapet Clinic :—The total number of out-patients treated at this clinic during the year was 3,669. The average daily attendance at the clinic was 348 per adult treatment day and 134 per child treatment day. The routine treatment is given with parent sulphone. Wax hath followed by graded and regulated exercise to the deformed fingers is becoming more and more popular with the patients in the Physiotherapy Section. Plaster bandaging of individual bent fingers with a view to obtaining progressive straightening is also done with fairly encouraging results.

III. Research :

The following investigations were carried out during the year under report :

(i) *D.P.T.* (*S.U.* 1906): This is a thiourea derivative which has been found effective in the treatment of leprosy. The trial with this drug has been continued in the Institute for over three years. It has been concluded that (a) DPT is effective in the treatment of leprosy and the degree of efficacy is about the same as that of DDS; (b) the combination of DPT and DDS does not appear to have any advantage

over these drugs used singly; (c) DPT may be of value in the treatment of cases which are intolerant to DDS; and (d) DPT is a very useful addition to the existing anti-leprosy drugs.

(ii) *Etisul (I.C.I.)*: Etisul is a derivative of ethyl mercaptan and is an ester formed from the isophthalic acid and ethyl mercaptan (Diethyl-Dithiol-Isophthalate). It is unsuitable for administration either by mouth or injection but is readily absorbed after incision, and that is the route by which it is given. The trials reported last year with this drug in the treatment of leprosy were continued. Up to the end of 1960, the trials have been made in a total of 72 patients; 39 having been given etisul with or without DDS and 33 having been given DDS alone as control.

From the investigations, etisul either alone or in combination with DDS has in general not been found to produce any accelerated clinical or bacteriological improvement.

(iii) *Indigenous drugs*: Trials with some indigenous drugs in the treatment of leprosy have not given any satisfactory result.

(iv) *DDS prophylaxis in child contacts*: The investigations to find out the prophylactic value of DDS in healthy child contacts which were commenced in July 1958, have since been continued. Two comparable groups were made, the 'Prophylaxis' group being given DDS by mouth and the 'Control' group a placebo in the form of calcium lactate tablets. The present analysis is based on the findings in 226 contacts, 116 in the prophylactic group and 110 in the control group. In the 'Prophylaxis' group, of the 116 contacts, 9 (7.8 per cent.) have developed definite lesions of leprosy; and in the 'Control' group, of the 110 contacts, 6 (5.5 per cent.) have developed such lesions. Thus, from our observations so far, it can be concluded that DDS has not been found effective in preventing the onset of leprosy in the healthy contacts of leprosy cases. These observations, however, are considered only as tentative.

(v) *Natural evolution of the disease in children with minor tuberculoid leprosy*: In the last year's report a follow up study was reported of 43 children with major tuberculoid lesions of leprosy who were kept without treatment over a period of 1 to 20 years. From this study it was concluded that in the major tuberculoid lesions of leprosy in children the prognosis was excellent even without treatment. This year a similar study on children with lesions of the minor tuberculoid type of leprosy is reported. Between 1937 and 1956, 396 children were registered as suffering from minor tuberculoid leprosy for the purpose of follow up without any treatment being given to them, to study the natural evolution of the disease in this type. The children were periodically examined and progress notes were maintained. Out of 396 children registered, only 154 could be included in the final analysis, the remaining had to be deleted from the study because of one reason or other.

The study showed that in a vast majority of cases (a little over 88 per cent.) the lesions subsided and remained subsided for long periods. It has, therefore, been concluded that, as in the case of major tuberculoid lesions, in the minor tuberculoid lesions of leprosy also the prognosis is excellent even without any treatment.

IV. Physiotherapy :

In this section 340 cases were treated during the year under report and 324 fresh cases were surveyed for various deformities. The section also helped in the foot wear clinic in deciding the type of shoes needed for a particular patient and in the preparation of the shoes in the Industrial section.

The treatment consisted of oil massage, wax packing, individual finger splinting and exercises. Infra-red treatment were given to a small number of cases suffering from neuritis.

The survey of the 324 newly admitted cases showed that no deformities were found in 149 cases (46 per cent.) while deformities of various kinds and of varying extent were found in 175 (54 per cent.) cases. The commonest deformity seen was the clinical paralysis of the hands, this condition being present in 126 (39 per cent.) patients. There was no case of total blindness. These figures cannot, however, be applied to leprosy in general, as they refer to inpatients, which do not represent a cross section of leprosy in the general population.

V. Teaching :

During the year 28 Health and Sanitary Inspectors in three batches deputed by the Madras Government received training in leprosy for a month each (two weeks at Tirumani and two weeks at Saidapet). 13 batches of Health Officers and para health trainees from the Orientation Training Centre, Poonamallee and other institutions attended the Institute and were given lectures and demonstration in leprosy. One batch of 25 pupil Health Visitors were given lecture-cum-demonstrations for one week.

VI. Industrial Section :

In the Industrial Workshop consisting of different sections such as carpentry, smithy, weaving, cobblery, binding and mat making, facilities for the occupational therapy and rehabilitation of the patients are provided. The requirements of the Sanatorium, like furniture, repair works, cloth for patients, shoes for patients etc., were met. Limited number of private works were also undertaken.

The Agricultural Farm: In the Agricultural Farm about 120 men and women patients were employed. The vegetables produced met about 9 months' requirements of the Sanatorium.

Education: There are two elementary schools, two adults night schools and one carpentry school which provide educational facilities for the in-patients. The boys and girls are also taught spinning.

Social Welfare: The activities of this section included establishing closer contacts with the patients, and efforts in the solution of some of their personal problems, maintenance of discipline among the patients, supervision of the cultural and recreational activities for the patients and supervision of the work of the patients' co-operative concerns.

VIRUS RESEARCH CENTRE, POONA

The Virus Research Centre, Poona is established and maintained jointly by the Indian Council of Medical Research and the Rockefeller Foundation with the object of studying arthropod-borne viruses of man and animals in India.

The senior staff of the Centre consisted of the Director and two more Staff Members of the Rockefeller Foundation assigned to the Centre and 7 posts of Research Officers and 4 posts of Assistant Research Officers borne on the I.C.M.R. rolls. Only two posts of Research Officers and three posts of Assistant Research Officers were filled and the rest vacant. The I.C.M.R. provided the local staff, buildings and all local supplies and services and the Rockefeller Foundation provided all equipment.

The Centre has several Sections such as Virology, Serology, Tissue Culture, Field Entomology, Experimental Entomology, Medical Zoology, Established Field Station and Mobile and Emergency Sections. Apart from the main laboratory at Poona, the Centre also maintained two field stations, one at Sagar in Shimoga district of Mysore State to study the epidemiology of Kyasanur Forest Diseases (KFD), and the other at Vellore, Madras State for the study of epidemiology of Japanese B encephalitis.

The highlight of the year's activity of the Centre was the participation in the study and control of the epidemic of *African Horse Sickness* which was first recognised in Rajasthan State in April, 1960 and which later spread through eleven States of the Union, claiming a mortality of above 16,000 horses. Over forty virus isolations were made from specimens collected in three States. It was established that the virus of the horse sickness was an antigenic variant most closely related to South African type 6 and indistinguishable from the Pakistan virus. Measures were instituted based on the recommendations of the Virus Research Centre to protect the horses from bites of *Culicoides*, a kind of blood-sucking midges, and these may have contributed to the sharp decline in the epidemic in a cavalry unit at Jaipur. It was shown that the virus can be isolated from the blood of a sick animal for nine days after onset and that after that period, the sick animal is probably not a source for the spread of the virus. A study of horses inoculated with the Onderstepoort polyvalent vaccine revealed that the vaccine reaction may sometimes closely stimulate natural disease and that vaccine viruses may circulate in the blood for over 3 weeks.

Investigations of the Kyasanur Forest Disease (KFD) in the Mysore State were continued in co-operation with the State Health Department. 81 human cases were diagnosed and 197 monkey deaths were recorded. The disease appears to have spread to new villages mainly to the south and south-west of the original focus. It may be recollected that KFD was a new disease entity discovered in Sorab Taluk, Shimoga district, Mysore State in 1957, and has been one of the main items of study since then by Virus Research Centre. The disease is now considered to have a wide range of hosts and to be transmitted by a tick of the genus *Haemaphysalis*.

Tick infestation of monkeys, birds and man was further studied. 357 monkeys, 2,632 men and 4,552 birds were examined. Other studies

included a survey of antibodies in birds (50 positive out of 279), field investigations of the possibility of transovarial transmission in ticks and of tick abundance in the area.

A tissue culture technic using chick embryo cells has been perfected for KFD neutralisation test and for isolation of the virus from field specimens. A beginning has been made of a project to develop live virus vaccine against KFD by attenuation of a virulent KFD strain by passage in monkey kidney tissue culture. The Langat virus TP 21 from Malaya, which appears to be the least virulent virus for laboratory rodent in the KFD—RSSE complex, was also studied in monkeys as alternative possibility as a vaccine against KFD.

At the Vellore Field Station, located in the Christian Medical College and Hospital, Vellore, over 400 cases of febrile illness were studied. Three strains of dengue virus and one probable Coxsackie virus were isolated from acute blood.

In the laboratory, 22 cytopathic agents were isolated from rectal swabs of wild caught monkeys in South India.

Apart from a number of Indian and international professional workers, who visited the Centre, four workers sent from other institutions in India were trained for periods ranging from one month to three months.

The total expenditure incurred on the Centre by the Indian Council of Medical Research during 1960-61 was Rs. 5,86,600 and by the Rockefeller Foundation for the year 1960 was Rs. 8,77,000 excluding the salaries of the Rockefeller Foundation staff members.

HAFFKINE INSTITUTE, BOMBAY

The year 1960 marks the birth of the new State of Maharashtra which was celebrated on the 1st May, 1960. It was fortunate that the bifurcation did not affect the Institute in any way and the Institute remained in tact so as to be able to serve the areas of the former Bombay State for a period of 5 years as provided in the Act.

The Yellow Fever Inoculation Centre has been transferred to the Port Health Organisation on their premises. A plan for production of Oral Polio Vaccine was drawn out and submitted to Government for consideration. The production of scorpion venom has been undertaken during the year under report. Mention may be made of the establishment of fluorescent antibody technique for immunological investigations and of development of new method for purification of antisera by phenol.

The building of the Snake and Frog House was brought into commission during the current year. The load of routine activities of testing bacteriological specimens and drugs continued to be heavy.

Research

I. Department of Bacteriology :

The Department of Vaccine was renamed as Department of Bacteriology from June, 1960.

A medium giving satisfactory growth with the strains used here in the preparation of T.A.B. Vaccine was worked out. The vaccine prepared has been found to be free from abnormal toxicity and is being tested for antigenicity by the active mouse protection test.

Preliminary studies have been carried out to study the effect of shaking and the addition of different growth promoting factors, on the growth of cholera in case in hydrolysate.

During the period under review, 358,820 ml. of plague vaccine, 10,983,967 ml. of cholera vaccine and 423,013 ml. of TAB vaccine were issued while 9,297,000 ml. of cholera and 507,308 ml. of TAB vaccine were produced.

II. Department of Biochemistry :

The estimation of serum iron in normal and anaemic pregnant women referred to by the Wadia Maternity Hospital was continued.

A modified procedure for routine estimation of serum iron and iron binding capacity was studied. For determination of serum iron level, it is convenient to add known amount of the standard to the serum for accurate colour measurements. In the studies on liver function tests 21 cases of cirrhosis of liver were studied fully in addition to seven follow-up cases. The tests revealed abnormalities in most of the cases. Biopsy reports indicated either 'cirrhosis of liver' or marked 'fatty metamorphosis'. Studies on metabolic disorders which are known to retard normal mental growth in children have been undertaken. Preliminary work on the standardisation of casin hydrolysates prepared in the Media Section has been started in connection with the proposed investigations on Bacterial Metabolism.

The total number of analysis carried out during the year was 6,835 as against 8,709 in the previous year.

III. Department of Chemotherapy :

The activities of the Department increased in research, production, testing and teaching programme. The research work carried out during the year comprised mainly of the studies in the synthesis of hypoglycemic agents, oral diuretics, anti-tubercular compounds, anti-convulsants and central nervous-system stimulants. Hormone study initiated in the Department during the previous year was continued and with the arrival of Russian expert Madam Zverva, it was possible to carry out pilot plan trials for insulin and laboratory studies on the isolation of other glandular products such as ACTH, thyroxin, pepsin etc. Work on the isolation of digitoxin and other glycosides from indigenously grown *digitalis purpurea*, studies on crystalline fractions from *vernonia anthelmintics* and tuberculostatic activity of *Caparis monii* fruits were continued.

During the year under review the department continued to manufacture and supply Vitamin Sulpha Drugs and Quinine preparations to the hospitals and dispensaries of Government and Municipalities and to Employees' State Insurance Scheme.

In the Department of Clinical Pathology samples of articles of food and beverages received from the Forensic Science Laboratory,

Bombay were examined for evidence of toxin or poison. 11 such exhibits of medicolegal cases were bacteriologically tested during the year under report. The Department continued with the general activities of conducting bacteriological, serological and biological tests on all clinical materials received from Government hospitals and other institutions, preparation of autogenous vaccines and conducting special tests like pregnancy tests, Rideal-Walker Test, Frei's and Tuberculin Tests, etc. 3,803 pathological specimens received from different hospitals were examined during the year 1960.

IV. Department of Entomology :

Plague epidemiological studies were done in collaboration with Capt. D. C. Cavanaugh of the Walter Reed Army Institute of Research, Washington.

A modified technique to execute the venom of scorpions by electricity was evolved to give a continuous supply of scorpion venom for experiments. This is first time in India that this kind of venom extraction has been attempted with success. The amount of snake venom during the year 1960 was 117.9416 gms. and the venom supplied was 113.4301 gms.

V. Department of Immunology :

The Department of Immunology has been feeling the need for expansion of production facilities as the demands for anti-sera and toxicity far exceeded its production capacity. Anti-sera production was adversely affected to some extent during the year by the threatened frequent Horse Sickness against which our horses had to be vaccinated thus suspending the immunization schedule for some time.

The method of purification of horse anti-toxic sera by frequently precipitation with ammonium sulphate at 1.5 per cent phenol concentration was further improved.

Experimental work on the production of H. pertusis vaccine by shake-culture method continued.

VI. Department of Nutrition :

The Department of Nutrition of the Government of Maharashtra continued to be located at the Haffkine Institute and is actively collaborating in the academic and research activities of the Institute. Three research enquiries sponsored by the Indian Council of Medical Research, the Indian Council of Agricultural Research and the Council of Scientific and Industrial Research were currently undertaken in the Department.

The research comprised of the following :—

1. Nutritional evaluation of food stuffs commonly consumed in the Bombay State ;
2. Status of Nutritive value of some leafy vegetables and their supplementary effect ;
3. Studies in proteins and certain B. Vitamins inter-relationship—the study of the sparing effect of the Vit. B₁ and B₁₂ on one another and the inter-relationship of these two Vitamins as far as the protein *vivo* is concerned, was undertaken during the year under report ; and

4. Studies in growth inhibitory effect on raw soyabin—this aspect of the problem was undertaken to study whether the growth inhibition produced by feeding raw soyabin was of permanent nature or if it could be resorted to normal by feeding raw soyabin diet supplemented with Vitamin B₁₂.

VII. Department of Pharmacology :

Researches were carried out on drug analysis, indigenous and synthetic drugs and on some fundamental problems.

Tincture *Saussurea* has been known for its usefulness in the treatment of chronic bronchitis and asthma. Pharmacological studies were carried out on the various fractions isolated from the root.

The screening of medicinal plants which are reported to be useful in the treatment of cholera has been continued.

So far about 75 synthetic antidiabetic drugs were screened for hypoglycemic activity, out of which about six compounds have been found to possess significant hypoglycemic properties.

The importance of cellular and humoral immunities in plague infection in the monkey was studied.

During the year many varieties of drugs were examined. They were pharmacopoeial preparations, patent and proprietary medicines which included biological and special products, chemotherapeutic remedies, analgesics, antipyretics, hormones, spirituous medicines, anti-biotics, vaccines sera etc. In all 4,128 samples were examined out of which 949 or about 23 per cent. were found to be of non-standard quality.

VIII. Department of Virology :

The work on standardisation and assay of pendency of influenza vaccine was continued.

Adaptation of rabies street virus to chick embryo and study of changes in pathogenicity continued during the year under review.

Kyasanur Forest Diseases (KFD) virus strains and preparation of suitable vaccine was also undertaken.

During the summer and monsoon months of 1960 Encephalitis cases occurring at Nagpur were studied. Through the kind co-operation of the authorities and the staff of the Nagpur Medical College and Hospital it was possible to study 38 cases, clinically diagnosed as Encephalitis and to collect specimens from the same.

IX. Blood Bank Section :

The demand for dried human plasma and the blood grouping sera were on increase during the year and it was not possible to meet them due to insufficient number of blood donors. To secure more blood donors the mobile blood collecting team visited certain city offices and colleges. The Department took part in city exhibitions by putting up its own stalls. Two batches of candidates have completed their training in these Sections. In addition, 16 laboratory technicians were trained in blood bank methodology.

Rh grouping of blood donors—the study of Rh blood groups and their sub-types among the blood donors was carried out. 1,500 blood donors were grouped for Rh factor and Rh sub-typing was carried out in 176 blood donors.

There is an increasing demand of Anti-A and Anti-B sera from all over the country. The Anti-A and Anti-B sera prepared by the Haffkine Institute compared favourably with the WHO International standard. 3,784 blood donors were bled for the preparation of dried plasma. From this 483.750 liters of dried plasma was prepared. The Section has started carrying out paternity test in cases of disputed parentage from this year. During the year six such cases were investigated.

PASTEUR INSTITUTE, COONOR

The Association of the Pasteur Institute of Southern India, which was founded in 1906 is a private body registered under the Societies Act, 1860. The objects of the Association are to make available effective means of preventing the occurrence of rabies, to spread the knowledge of such means among the public and to undertake research work on rabies or any other disease in so far as the funds of the Association permit and the staff of the Institute is qualified to undertake such investigations.

In recent years the Institute has expanded its activities considerably. It is internationally recognized for its research work on rabies. It is the main laboratory for work on influenza and other respiratory viruses in India. It is now serving as an important centre for research on intestinal viruses, vaccinia, and smallpox. Studies are also in progress on cholera and syphilis.

The enquiry to determine (i) whether the 5 per cent. Semple vaccine manufactured by the Institute has any protective value under circumstances in which adequate untreated control groups have been observed and (ii) whether there is any variation in the mortality rate as a result of treatment with 5 per cent. Semple vaccine instead of the 1 per cent. vaccine used during the years 1912-24, was continued during the year under review.

8.04 per cent. of the persons bitten by proved infective animals develop the disease in spite of having a complete course of treatment. If the number dying within 15 days after the completion of treatment, who really cannot be classified as treatment failures, are excluded, the mortality rate would be only 3.06 per cent. The death rate among a similar group of persons who refused treatment is 49.6 per cent. If the persons who died during treatment are also classed among the untreated, the mortality rate among the untreated would be 55 per cent. It is interesting to note that the mortality rate among the incompletely treated is 11.36 per cent.

If, on the other hand, we take into consideration all persons bitten by infective, proved and presumably rabid animals, the mortality rate in the treated group is found to be 0.34 per cent. If the 23 deaths not considered as treatment failures are excluded the mortality rate in this group would be only 0.12 per cent. This figure is much lower than the mortality rate of 2.9 per cent. reported by Cornwall for

similar group in his study. This would indicate that the results of treatment with 5 per cent. Semple vaccine are superior to those obtained with the 1 per cent. Semple vaccine used by him earlier.

A careful study of the efficacy of post-infection treatment of animals has been in progress during the year under review.

In the studies on combined serum and vaccine therapy in rabies an attempt has been made to determine (i) the optimum dose of serum required when combined with different dose of vaccine against challenges of varying severity (ii) the most effective serum and vaccine combination when treatment is started at varying intervals after infection and (iii) whether the conclusions previously drawn hold good when rabbits were used instead of guineapigs.

Trial of an indigenous remedy with an oil extracted from flesh of a white mongoose against rabies infection was undertaken during the year. It was concluded that the oil had no protective action against rabies.

Epidemiological and laboratory studies on influenza and other respiratory viruses were continued.

Studies were undertaken to find a suitable susceptible cell population that could be prepared with relative ease and in an economical manner for the assay of vaccinia virus and its antibodies and investigate its usefulness for the preparation of a vaccine against smallpox.

The studies on N.A.G. vibrios were continued, to find out the effect of serial oral passage. The NAG 21 vibrios has so far undergone 30 oral serial passages in guinea-pigs, during the year 1960. The serial passage appeared to enhance the virulence of the organism and the vibrios during passage maintained their characteristics such as non-agglutinability and biochemical reactions.

During the year under report 42,87,008 cc. of antirabies vaccine was manufactured and the quantities of human and animal vaccines supplied were 30,27,729 cc. and 6,12,570 cc. respectively.

BCG. VACCINE LABORATORY, GUINDY, MADRAS

The BCG Vaccine Laboratory, Guindy, Madras, established in 1948 by the Central Government with the assistance of UNICEF and WHO, is the world's largest BCG. production centres under the Mass BCG. Campaign. The Laboratory continued to supply tuberculin and BCG. vaccine free to all the States and other institution engaged in mass BCG. Campaign in India throughout the year.

A sum of Rs. 3 lakhs was provided for in the Second Five Year Plan for the establishment of a plant for manufacture of dry freeze vaccine at the laboratory, with a view to obviate some of the drawbacks of the liquid vaccine.

The primary dryer and secondary dryer have already been installed for the purpose. The required hard glass ampoules were received from Japan.

During the year covered by this report, 27,429,330 doses of BCG. vaccine and 40,371,000 doses of tuberculin were manufactured at this Laboratory.

27,631,190 doses of BCG. vaccine and 40,106,600 doses of tuberculin were supplied to the State centres in India and to foreign countries during the year under report.

Research

During 1960, thirty-five experiments in Freeze Drying BCG Vaccine were carried out. Tests on the dried vaccine to determine their keeping properties, viable unit content, residual moisture content and immunizing potency were carried out. Batches of vaccine having either 'Mono-Sodium Glutamate', 'Mono-Sodium Glutamate and Tween-80' and 'Mono-Sodium Glutamate and Dextran' dissolved in their suspending medium were freeze dried, tested and compared. From the results it would appear that the use of Sodium Glutamate alone or Sodium Glutamate with Tween-80 was equally satisfactory. Vaccines prepared in the former were able to resist the effect of heat better. Vaccines prepared in the latter medium reconstituted quicker. Vaccines in Sodium Glutamate and Dextran were the least satisfactory. The vaccines were now ready for the field trial, which is planned to take place shortly. Further work on the vaccine will depend on the result of the field trials.

Experiments carried out in Kerala and the Punjab States demonstrated the close relation that exists between the potency of BCG. Vaccine at the time it is used in the field and the conditions of (cold) storage in which the vaccine is maintained in the field.

The experimental use of half-strength BCG. Vaccine (0.0375 mgm. per dose) for the vaccination of new-born infants was continued during the year under report.

INDIAN CANCER RESEARCH CENTRE, BOMBAY

The Indian Cancer Research Centre, Bombay, was established in 1952 with a view to provide Research and Post-graduate teaching in Cancer and allied subjects.

During the year under report, there was a budget provision of Rs. 7.00 lakhs for giving grant-in-aid to the Indian Cancer Research Centre, Bombay.

The different Departments of the Centre continued to function satisfactorily during 1960. The following is a brief resume of the work done in the different Departments and Units :

Department of Applied Biology :

The studies related to the mechanism of carcinogenesis, particularly breast cancer and skin cancer, spontaneous and chemically induced, were in progress in the Department. In the Tissue Culture Section several commercial cell lines as well as special tumour and normal cell lines were cultivated and maintained. The investigations undertaken involved extensive 'in vivo' and 'in vitro' experimental work.

The facilities available in the Department made possible the taking up of important fundamental research work regarding the transmission of leprosy to small laboratory animals such as rats,

hamsters and mice. It has now been possible to isolate an acid-fast micro-organism from lepromatous leprosy in tissue cultures and to study the behaviour of the bacillus 'in vivo' and 'in vitro'.

Department of Experimental Embryology :

The experiments in progress related to the studies of ovaries and embryos treated with carcinogens and the effect of X-ray irradiation of abdominal regions of female mice on them and their progeny.

Department of Human Variation :

Cancer epidemiology, cancer genetics and sex endocrine disorders were the important topics studied in the Department. Investigations regarding hereditary anaemia, the phenomenon of twin births and the effects of consanguineous marriages were also in progress in the Department.

Department of Bio-chemistry :

The work of this Department consisted of studying the metabolism of thiosters of carcinogenic hydrocarbons, causes of oral cancer, anti-fertility drugs and proteinoid hormones. Chemistry of tobacco with a view to understanding its connection with the incidence of cancer was a special topic of study in the Department.

Department of Enzyme Chemistry :

The mechanism of resistance of anti-leukamic drugs, studies on mitochondrial enzymes in tumours, folic acid metabolism in liver tumours, the roll of enzymes in the toxic action of venoms and metabolic studies on human leprosy organism were the topics of research in progress in the Department.

Department of Bio-physics :

In this Department the effects of ionizing radiation on amino acids and nucleic acids, new methods of radiation dosimetry and the complexes of RNA and DNA with the dye acridine orange were studied. Bio-physical studies of bidi and cigarette smoke and the use of interference microscopy for cellular study were other important topics on which work was in progress in the Department.

Department of Microbiology :

In this Department studies on human epidermal cancer, ultra-structural cytology, electron microscopy of mouse mammary tumour and the mammary tumour inciter, induction of submucous fibrosis of palate in rats and electron microscopy of bidi and cigarette smoke in relation to cancer were in progress.

Besides, the above Departments of the Centre several research schemes and services financed by the Indian Council of Medical Research and specially established Units financed by other agencies were in progress at the Centre. The following are of special mention :—

- (1) Unit for maintenance of stock cultures.
- (2) Blood Group Reference Centre.
- (3) Microfilm and photocopy service.

- (4) Laboratory Animals Information Service.
- (5) Neurology Unit.
- (6) Unit for studies in physiology of reproduction.

The Unit for maintenance of stock cultures works in the Department of Applied Biology, as already stated, its main function was to maintain several commercial cell lines as well as special tumour and normal cell lines. The blood Group Reference Centre acts as a Reference Centre for the whole country. Its work consisted of developing techniques for large scale production for anti-Rh(D) sera, bovin albumin and Coombs reagent, besides training of Blood Bank Officers and systematization of blood donor service. The microfilm and photocopy service did considerable work of supplying microfilms and photostat copies of scientific articles to scientists all over the country. The Laboratory Animals Information Service, which was started in 1958, compiled data regarding the availability and use of laboratory animals in the country and disseminated information about the maintenance of laboratory animals, their diet, diseases and treatment. It also reproduced and circulated important articles about laboratory animals.

The Neurology Unit was engaged in the investigation of the pathology of Kysanur Forest Disease (KFD), "Encephalitis" received from Singapore, metabolic studies on human hepatic coma studies on lathyrism, studies of pyridoxin deficiency, clinical and histological studies of gustation and a few other clinico-pathological problems. The Unit for studies in physiology of reproduction was engaged in basic research in the reproductive processes. It also did important work in laboratory and clinical testing of contraceptives and materials alleged to be having anti-fertility property, received from the Director General of Health Services, New Delhi.

52 papers were published in scientific journals of repute.

THE KING INSTITUTE, GUINDY, MADRAS

The King Institute, Guindy, Madras was established in 1905 and originally was serving as a Lymph Department to supply vaccine Lymph to Madras Province. The Institute served as a Public Health Laboratory for examination of water from protected water supplies throughout the province and other samples for general diagnostic purpose, and analysis for examination of samples of food under the Prevention of Food Adulteration Act. The Department of Water Analysis and the Department of Government Analyst were separated from King Institute from 1959; and put under the administrative control of the Director of Public Health, Madras. Its activities were extended enormously towards the manufacture of Vaccine Lymph, Cholera and T.A.B. Vaccine, Anti-toxin Sera, Sterile Parenteral Solution, Auto-vaccine etc. The Institute also served as a training and Research Centre. The Blood Bank and blood grouping Sections also functioned satisfactorily during the year. Research work carried out in Biological, anti-toxin, and blood grouping departments are worth mentioning.

I. Vaccine Lymph Section :

During the year 1960, a total quantity of 7,829,000 doses glycerinated vaccine Lymph in a dilution of 1 in 5 was manufactured and a quantity of 4,761,990 doses of vaccine Lymph was supplied. The supplies were made to Madras and Kerala States.

During the period under review, the pilot project of the Smallpox Eradication Programme was initiated and the supply of vaccine Lymph for this project in Chingleput District and Madras Corporation commenced from September, 1960. Thus in addition to the usual supply of vaccine Lymph for routine use, as given above, a quantity of 418,110 doses was supplied for this project upto the end of 1960. Preliminary preparations for the manufacture of Freeze Dried Smallpox Vaccine were taken up. For the purpose of training in the manufacture of Freeze dried vaccine, one Medical Officer and a Refrigeration Mechanic were selected for deputation to U.K.

II. Diagnostic Department :

In the diagnostic department, the following sections were functioning :—

- (a) Serology Section.
- (b) Clinical Section.
- (c) Media Section.
- (d) Prophylactic Vaccine Section.
- (e) Therapeutic Vaccine Section.

A total number of 52,792 specimens of blood and cerebrospinal fluid were tested and the quantities of different types of reagents manufactured and supplied were 7,635 cc. and 4,951 cc. respectively during 1960 in the Serological Section. In the Clinical Section, 14,379 specimens were examined during the period under review. Various Media and sterilised articles were manufactured and supplied to Madras State by the Medical Section. In the Prophylactic Vaccine Section of the Institute, 4,60,398 cc. of Cholera Vaccine and 2,05,628 cc. of T.A.B. Vaccine were manufactured, of these 2,579,222 c.c. of Cholera Vaccine and 1,87,793 c.c. of T.A.B. Vaccine were supplied. Stock vaccine, Auto-vaccines, bacterial suspensions, High titre sera, live cultures and old tuberculin supplied by the Therapeutic Vaccine Section of this Department.

III. Blood Bank Department :

There is a Central Blood Bank at King Institute, Guindy where blood grouping, Rh testing and other Haematoserological tests concerned with transfusion are carried out in addition to Research work. Wet human plasma and grouping sera were processed and distributed to State Blood Banks and Private Institutions. The mobile Blood Bank Team was deputed for blood collection for plasma processing from the inmates of the District Jails for Madras State. Training is given for Medical Officers in the technique of Blood Transfusion and Resuscitation. State Blood Banks are organised whenever the Government sanction is accorded.

Standard Essential Blood Bank equipments are supplied from Central Blood Bank Supplies, King Institute, Guindy. Propaganda was carried out by the Blood Bank Team to popularise blood donation among the lay public.

Investigation on the distribution of blood groups among south Indians and investigation on the carcinogenic nature of plasmex (Polyvinylpyrrolidone) were carried out during 1960.

IV. Biological Control Department :

This department continued to undertake the analysis of all Biological Products and Injectables manufactured in this Institute as well as those sent by various hospitals in the city and Mofussil. In addition, the department, as the State Drugs Laboratory for the analysis of Schedule C and C₁ Drugs under the provisions of the Drugs Act, received such samples from the Drugs Inspectors functioning under the Act. Samples were also received as usual from private firms and private medical practitioners. The total number of specimens, that were received for examination under all heads during the year 1960 was 2,798.

As regards research activities of this department it may be mentioned that (i) Study of data collected from the routine performance of the Male Frog test for pregnancy was continued and to evaluate its usefulness in the early diagnosis of pregnancy and (ii) Studies on the relative virulence of the Inaba and Ogawa strains of *V. cholera* were continued during the year under review.

V. Department of Antitoxin :

The quantities of Tetanus and Welchii Toxins manufactured in the Institute were 1,244 litres and 232 litres respectively and were supplied to various States in the country.

143,702 doses of Tetanus Antitoxin prophylactic sera and 1,378 doses of Anti-gasgangrene Sera were manufactured during 1960.

39 samples were received from 6 hospitals for evidence of contamination which *Cl. tetani*. Bacteriological, biochemical and animal tests were done and reported. The scare of South African horse disease epidemic in India necessitated immunisation of King Institute horses against the dreadful disease. Consequently the vaccinated horses had to be given rest for 3 months. This affected the output of the Department during this period.

The preliminary research work to select the best adjuvant for immunisation work in animals was under progress. The results achieved so far showed that in laboratory animals, adjuvants play a definite role in raising the antibody level. Colloidal Manganese (Crookes) and Typhoid Vaccine (K.I.P.M.) appear to have a distinct advantage over plain toxoid with Tapioca. Alum showed an intermediary value. Further work was in progress.

THE REGIONAL RESEARCH LABORATORY, JAMMU

During the year 1960-61, the Regional Research Laboratory made further substantial advances towards its developmental programme as approved by the Governing Body of the Council of Scientific and Industrial Research. An Executive Council for this Laboratory under the chairmanship of Bakhshi Ghulam Mohammad, the Prime Minister of the Jammu & Kashmir State was formed. During the year under report the Executive Council met twice i.e., on 4th June, 1960 at Srinagar and on 7th February, 1961 at Regional Research Laboratory, Jammu.

Survey of Medicinal and Economic Plants :

Botanical and Ecological Surveys were conducted at Bhadrawah, Kishtwar, Doda Forest Divisions and some places in Pir Panjal

ranges in Jammu & Kashmir State, while the Punjab, Himalayas, Kulu, Minali, Baijnath and Joginder Nagar were explored. Many short trips to various places in Kashmir, Jammu and Punjab were made to collect plant materials for various Sections of this Laboratory. A total number of 800 plant specimens were collected apart from the live plants which were planted in our garden of medicinal plants.

Among the new additions to the herbarium, the following plants which are reported to be of medicinal value, have been collected for preliminary chemical and pharmacological investigations in the Laboratory :

Osmunda claytoniana Linn; *Selinum vaginatum* Clarke; *Seseli sibiricum* Benth; *Bosia amberstiana* Hk, f.; *Phagnalon nivium* Edgw; *Evodium cicutarium* Linn; *Torilis anthriscus* (linn.) Gmel; *Hernearia hirsuta* Linn; *Lindelofia longiflora* Benth; *Juncus lamprocarpus* Ehrh.

Pharmacognostic studies on *Vallaris solanacea* and *Physochlaina praealta* were carried on. The vein islet number, palisade ratio, stomatal index, stomatal number and nature of trichomes etc., have been studied and the study of the powders was also in progress.

Cultivation of Medicinal Plants :

Agronomical experiments on the following crops were conducted during the year under report:—

(1) *Anethum graveolens*, (2) *Mentha arvensis*, (3) *Ammi visnaga*, (4) *Hyoscyamus niger*, (5) *Matricaria chamomilla* and (6) *Tagetes* sps.

Following plants were planted on a small scale for observation purposes during the year under review :—

Plantago ovata, *Belladonna*, *Pyrethrum*, *Safflower*, *Digitalis lanata*, *D. purpurea*, *Kennel* (6 vars), *jowan* (3 var.) and *Gumin* (2 var.).

Plant introduction :

The Ramnath Chopra Garden of Medicinal Plants was opened during the year under report. The number of plants collected and planted during the year was 1,425. Amongst interesting plants added were 18 species and varieties of genus *mentha* received from the Director, Kew Gardens and seed of 6 species from West Germany from Dr. Stuble. Tetraploid Rye was introduced from Welsh Plant Breeding Station.

Chemical investigation of Medicinal and Essential Oil Bearing Plants were carried out on the following:—

(1) *Prangos pabularia* Lindl., (2) *Zanthoxylum alatum* Roxb., (3) *Vallaris heynei* Sprong (Vern Dudhi), (4) *Bryonopsis lacinisus* Linn. (Vern. shivling), (5) *Peganum harmals* seed oil, (6) *Diosgenin* from *Dioscorea deltoidea*, (7) *Chrysophenic acid* yielding drugs, (8) *Equisetum debile* Roxb, (9) *Angelica archangelica*, (10) *Anethum Sowa*, (11) Chemical examination of the essential oil of *Tagetes erecta*, (12) Production of *Menthol* from dementholised oil and (13) Production of cellulosic fibre from pine needles.

Pharmacological screening of indigenous drugs were continued during 1960. As Cardiovascular Drugs :—(i) *Seselic sibiricum*—An essential oil isolated from the aerial part of the plant produced well

marked hypotension and bradycardia; (ii) *Eravatamia coronaria* (Tagar)—Total alkaloids isolated from the root and the stem bark produced a fall of the blood pressure and stimulation of respiration; (iii) *Lochnera rosea* and *Rauvolfia serpentina*—Hypotensive effect of *L. rosea* extract in normotensive dogs was found greater than that of *R. serpentina* and its sedative effect was comparatively less. It is more toxic than *R. serpentina*.

As Respiratory stimulant and Analeptic Drugs :—*Prangos pabularia* Lindl (H. komal)—Crystalline substance A (osthol) isolated from the roots produced persistent rise of blood pressure and stimulation of respiration. Respiratory depression produced by harbiturates and morphine was antagonised and an analeptic effect observed. Respiratory tonic effect was comparable with coramine.

The following plants were tested for efficacy as uterine stimulants and relaxants :—

- (a) *Abrus precatorius* (seed) stimulation.
- (b) *Randia dumetorum* (fruit) stimulation.
- (c) *Achyranthes aspera* (whole plant) stimulation.
- (d) *Cuscuta reflexa* (whole plant) stimulation.
- (e) Dill apiol relaxation.

In the Microbiological studies :—(1) Screening of soils for antibiotic producing streptomycetes, (2) Identification of these highly active strains, and (3) Screening of indigenous medicinal plants for antibacterial and antifungal properties were carried out.

A survey of insect pests of medicinal plants both cultivated and wild was conducted during the year under review.

Technical aid rendered to Industry :

Seven samples of limestone and eleven samples of clay were analysed for the Director of Geology and Mining, Jammu and Kashmir State, for the evaluation of the available raw material for the proposed cement factory in Kashmir.

Technical help was rendered to 35 Government organisations and 18 research workers and private individuals including some educational institutions in Europe by supplying seeds and planting materials of various medicinal plants as also herbarium specimens and samples of crude drugs.

Six hundred and seventy samples of soils, fertilizers, crude drugs, insecticides and finished pharmaceutical preparations were analysed for various Government organisations of the States of Jammu and Kashmir, Uttar Pradesh and Punjab.

MALARIA INSTITUTE OF INDIA, DELHI

The brief account of activities of Malaria Institute of India, including the National Filaria Control Programme, for the year 1960 is given below :

Training and other Activities :

The annual course for Entomologists was temporarily suspended in order to meet the training needs of Medical Officers, Inspectors

and Technicians to man the National Malaria Eradication Programme units. The training centres were also organised at the Regional Co-ordinating Organisation of the National Malaria Eradication Programme and in some States for training inspectors and microscopists. The number of personnel trained during the year under report were as follows :—

Medical Officers	39
Malaria Inspectors (in 5 State Centres) in two courses	221
Laboratory Technicians (Microscopists) 2 courses at Delhi and one at Ernakulam Branch.	88
M.E. (P.H.) students from the All India Institute of Hygiene and Public Health, Calcutta.	34
Assistant Entomologists (Filaria) at Ernakulam Branch	7
Filaria Inspectors (2 courses at Ernakulam Branch)	59

Short training courses on Malaria and Filaria were also arranged for 11 trainees from Afghanistan, United Arab Republic, Pakistan, Iran, Belgium and Nigeria.

Orientation courses on surveillance were conducted in Mysore State with the help of State Public Health Department. The senior officers like the State Malariologist, Deputy Assistant Director of Public Health/Director of Health Services and Zonal Officers were trained in these courses. Two such courses were held and were attended by 94 Officers from different States.

In the Laboratory, 4,935 samples of different insecticides and their formulations for National Malaria Eradication Programme from different sources were analysed according to the W.H.O. and I.S.I. Specifications. 127 samples of different insecticidal formulations were analysed for their insecticide contents, suspensability, etc.

The research activities during the year related to different aspects of both Malaria and Filaria and were carried out at the Institute at Delhi, its branches at Coonoor (Madras State) and Ernakulam (Kerala State). The research on Malaria and Filaria was presented under the following heads :—

1. Epidemiology.
2. Chemotherapy.
 - (a) Antimalarials—synthesis, screening and metabolism.
 - (b) Filariacides—Laboratory and field trials.
3. Pathology and Immuniology.
4. Vectors and their control.
 - (a) Bionomics.
 - (b) Systematics.
 - (c) Studies on Insect resistance to insecticides and larvicides.
 - (d) Evaluation of Insecticides.
5. Other studies.

Epidemiology :

A strain of *P. berghei* was isolated, which is resistant to its own immunity and results in patent parasitaemia when inoculated into latent albino rats, a phenomenon which does not occur when normal strain of *P. berghei* is inoculated. This offers a possible explanation to the relapse phenomenon in Malaria.

A study was undertaken to determine deterioration of mosquito blood meals when preserved at room temperature.

Filaria :

The States of Punjab, Himachal Pradesh, Jammu and Kashmir, Delhi and Western Districts of Uttar Pradesh were believed to be free from filariasis. A high prevalence of *Culex fatigans*, the vector mosquito for the bancroftian filariasis is common in most of these areas. Rapid reconnaissance surveys undertaken during the year under report revealed that favourable conditions do exist in places like Amritsar, Karnal, Sonapat and Delhi, etc. for the transmission of human filariasis.

Similar investigations carried out under the Ernakulam Branches revealed the presence of filarial transmissions in many areas which were believed to be filaria free in the past.

The experiment regarding infectivity of *W. bancrofti* carriers to *C. fatigans* in relation to the range of circulating microfilarial density was conducted during the year.

Chemotherapy :

The effect of Diamino-Diphenyl Sulphone to Albino mice having blood-induced infection of *P. berghei* was studied.

Sixty-three drugs were screened in chickens and six drugs in monkeys for testing their antimalarial properties. Of these drugs, sulphone showed activity against avian and simian plasmodia. R.C. 12 shows anti-malarial activity against avian malaria. Detailed studies of sulphone against *P. knowlesi* and *P. cynomolgi* in monkeys were undertaken.

Studies were undertaken to determine if the resistance of *P. berghei* to sulphadiazine gets reduced in the absence of exposure to the drug.

Acute toxicity of two drugs—R.C. 12 and primaquine was determined.

The effect of the following three drugs on the circulating microfilariae (*B. malayi*) was studied. It was found that none of the drugs (sulphone in two cases, Prednisolone in one case and Vitamin B in two cases) had any effect on the circulating microfilariae.

Among the various antibiotics tried Achromycin was found to be comparatively better for the treatment of secondary infections superimposed on elephantoid disease.

Pathology and Immunology :

Malaria.—The presence of foetal haemoglobin in rats of different ages was determined using the Alkali denaturation method. Studies were in progress in pregnant rats and normal rats to observe the

influence of foetal haemoglobin on the course of infection of blood-induced *P. berthai*.

Vector and their control :

The Russian Method of age determination of mosquitoes is based on the observation that dilatations in the overiole appear within 24 hours after oviposition. Appearance of the first dilatation is considered to be indication of the specimen having lived 6 days or more. Investigations regarding the applicability of these assumptions to Indian mosquitoes revealed that dilatations may appear as early as 3 hours after oviposition. Dissection of colony-bred *Anopheles Stephensi* revealed that age as determined by this method did not correspond with the known age of the mosquito.

During the year under report studies were carried out to determine the age composition of natural population of *A. subpictus* and *C. Fatigans* in and around Delhi.

During the year 31,000 female specimens of anophelines from different parts of the country from the collections preserved at the Malaria Institute of India were studied for variations in ornamentalations.

During the field studies about 60 per cent of the anophelines were found to enter the trap before mid-night. During baited collections made on 46 nights using man and buffalo as baits it was observed that 55.6 per cent of the mosquitoes were found to feed on buffaloes and the remaining on men. During August/October, 1960 a team was deputed to determine the age composition of natural population of *A. culicifcies* before and after experimental DDT sprays in Tehsil Burhanpur in Madhya Pradesh.

During the year studies on rearing and biology of bed bug, *Cimex hemipterus* were concluded. Two new techniques for colonising bed bugs were developed. The susceptibility of various insects of medical importance such as mosquitoes, bed-bugs, body lice and flea to insecticides was determined by the use of standard methods in various parts of the country.

Systematic susceptibility tests were carried out with red fleas obtained from the rats of Delhi in order to establish the base-line data of the susceptibility of the normal population of fleas to DDT, gamma BHC and dieldrin.

Tests were carried out in the laboratory to assess the relative toxicity of organophos-phorous compounds i.e., baytex, trithion, phisdrin, malathion and diaznon against larvae and pupae of *C. fatigans*.

National Filaria Control Programme :

The National Filaria Control Programme has been in operation since 1955-56. Forty-seven Filaria Control Units were allotted to the participating States under the National Filaria Control Programme upto the year 1959-60. Of these, 46 units have been established. The other unit, which was allotted to Pondicherry Administration during 1959-60, is in the process of establishment.

Filariasis Survey Units started in 1955-56 have been disbanded in all the States except Andhra Pradesh, Kerala, Madhya Pradesh and Uttar Pradesh. A population of 0.86 million has been covered by sample surveys under the programme during the year and 24.28 millions since the inception of the programme upto October, 1960. Based on the findings of the surveys carried out so far it is now estimated that about 64 million persons are living in the filarious areas of the country. The following is a statement of the estimated population at risk in the different States :—

States	Approximate population (in millions)
1. Andhra Pradesh	4.00
2. Assam	1.00
3. Bihar	5.00
4. Gujarat	2.00
5. Kerala	4.00
6. Madras	3.00
7. Madhya Pradesh	1.00
8. Maharashtra	2.00
9. Mysore	0.50
10. Orissa	5.00
11. Uttar Pradesh	35.42
12. West Bengal	2.00
13. Andaman & Nicobar Islands	0.05
14. Laccadive, Minicoy and Amindive Islands	0.03
15. Pondicherry Administration	0.23
TOTAL	64.23

The control operations are in progress in all the participating States except Assam and Pondicherry. During the year 2.89 lakhs of persons have so far (upto October, 1960) been administered Diethylcarbamazine tablets under the Mass Therapy Campaign. 0.84 houses were sprayed, 0.68 lakhs twice and 0.32 lakhs thrice with residual insecticides during 1960-61 (upto October, 1960).

Five sets of audio-visual equipment obtained through the U.S.T.C.M. for publicity purposes have either been distributed or are under distribution to the States of Bihar, Bombay, Kerala, Orissa and Uttar Pradesh.

Film strips (colour) on filariasis prepared by the U.S.T.C.M. Entomologist in collaboration with U.S.T.C.M. are under distribution.

A documentary film on "Filariasis" has been completed by the Government of India, Ministry of Information and Broadcasting and its prints will be distributed to the participating States after these are dubbed in various regional languages.

A chart depicting "Life cycle of filaria parasites" is under preparation and will be distributed amongst filaria control units for teaching and publicity purposes.

Mosquito larvicidal oil was introduced in place of B.H.C. as larvicide and has been in use. It has been decided to discontinue the use of insecticides for adult control of *C. fatigans* as none has proved effective against these mosquitoes which are responsible for transmission of *W. bancrofti* infection.

The entire programme in all its aspects (administrative, organisational, methods of control and results achieved) has been exhaustively reviewed. The report of the Assessment Committee is awaited.

THE CENTRAL RESEARCH INSTITUTE, KASauli

The Central Research Institute, Kasauli is basically a Research Institute, but also manufactures biological products and maintains a large collection of bacterial type cultures of pathogenic organisms to meet the needs of the country.

As in the past the Institute continued to manufacture and supply large quantities of vaccines, and sera etc., for the use of army and civil authorities. The quantities of vaccine and sera manufactured and issued during 1960 is given in Table 74. Urgent and large demand for cholera vaccine made on account of cholera epidemic in Delhi, Punjab and Kashmir during the year was fully met by the Institute.

Research and other activities :

Antibiotics and Biological Standardisation and testing section.—Blood level duration test of procaine benzyl penicillin was usually carried out in healthy human subjects. Since the human subjects were not easily available the W.H.O. stressed the need for a more suitable laboratory animal. In 1960, the results of blood level duration test employed show that sheep can be used instead of human subjects.

The work on the mechanism of Penicillin resistance in Staphylococci continued.

The effects of Pencillin in Staphylococci which had been stabilized on sucrose agar plates have been observed and the sequence of morphological changes as it occurs during the action of pencillin had been noted.

An investigation was undertaken to find out if erythrocytes of patients of pulmonary tuberculosis are sensitised in vivo and differ from normal erythrocytes by using Gel-diffusion technique.

The effect of heat on the antigenic structures of cobra venom, Russell's viper venom, echis venom and Krait venom were studied in Gel diffusion plates and correlated with the lethality of heated venoms during the year under review.

In the *bacterial Vaccine Section*, investigations were carried out to enhance the immunity conferred by the inoculation of prophylactic cholera vaccine. The result of the present experiments with conventional anti-cholera vaccine mixed with different adjuvants have shown that the agglutinating titre obtained in rabbits with one dose of adjuvant vaccine was higher and of a longer duration than that obtained with two doses of saline cholera vaccine.

In view of the facts, that the addition of formaline, does not in any way interfere with the immunizing capacity of the T.A.B. vaccine, and reduces reactions, it is now proposed to introduce such a vaccine in place of the routine non-formolised vaccine.

During the outbreak of gastro-enteritis in Delhi in July, 1960, the field unit was sent for field investigation. The unit confirmed bacteriologically that the cases of gastro-enteritis were those of cholera. All the cholera strains isolated during this outbreak belonged to sub-type Ogawa.

On studies about the storage condition of T.A.B. vaccine, the importance of not storing the vaccine at a temperature lower than 4°C was stressed.

In cooperation with the UNICEF and the WHO, steps were taken for the large scale manufacture of 4 million c.c. annually of Triple vaccine against Whooping Cough, Diphtheria, and Tetanus. Samples of these vaccines have been tested locally and have also been forwarded to an international laboratory abroad for independent test and report. Field trials were also being undertaken with these Component Vaccines in cooperation with the Punjab Public Health Authorities in some schools at Patiala to determine their immunizing potency.

Bio-chemistry Section :

Immuno-chemical studies with reference to vibrio-polysaccharides and proteins and the respective role of these factors in cholera immunity were continued.

In the *National Salmonella and Escherichiae Centre*, 176 strains of Salmonella were typed antigenically and 169 strains of Escherichia coli were received for identification during the year under review. Several new strains have been reported for the first time in the country.

Serum Concentration Section :

To provide for the treatment of large number of snake bite cases in the country, the Institute completed its Second Five Year Plan project of making polyvalent freeze dried anti-venin effective against all the four venomous land snakes of India. The dried anti-venin is expected to be issued shortly.

In the *Triple Vaccine Section*, concentrations and purification of diphtheria toxoid for human immunisation continued during 1960. Successful attempts were also made for purifying tetanus toxoid so that the purified toxoid can be mixed with other vaccines and mixed vaccines used for human immunisation.

Virus Section :

The patients undergoing full course of Anti-rabic vaccine treatment at this Institute were bled before the start of the treatment as well as after a lapse of varying periods after the treatment to study:—

- (a) The anti-body levels after different schedules of treatment.
- (b) The duration of immunity after the anti-rabic vaccination.

In almost all cases the anti-body level has been found to be unsatisfactory.

During the course of the year 1960, a separate air-conditioned and fully equipped laboratory has been set up to manufacture yellow fever vaccine in the Centre.

Smallpox vaccine prepared in growing eggs has been found to be as effective like the one prepared on animal skin, for protection against smallpox.

Training :

A number of officers from the Army, and several States underwent a course of training in rabies and anti-rabic treatment during the year 1960. A Chinese Scholar under exchange Programme of Scholars between India and China attended the Institute for one week for research training.

ALL INDIA INSTITUTE OF HYGIENE AND PUBLIC HEALTH, CALCUTTA

The All India Institute of Hygiene and Public Health, Calcutta, established in 1932, is the outcome of close collaboration between the Government of India, Government of Bengal and Rockefeller Foundation. Further development of Institute occurred under a Plan of Operation drawn by Government of India and W.H.O./UNICEF to serve as an International Training Centre for Maternal and Child Health and other public health workers. As a matter of international cooperation and in return for the support given by W.H.O./UNICEF, the Institute has agreed to give instruction, free of cost, to selected number of students of the South East Asia Region. The main objectives of the Institute are to impart up-to-date training to health workers in the prevention of diseases and promoting of health and also to conduct research aimed at solving the health problems peculiar to India and the neighbouring under-developed countries. The Institute consisted of the following teaching sections during the year 1960:—

1. Public Health Administration.
2. Epidemiology.
3. Microbiology.
4. Biochemistry and Nutrition.
5. Sanitary Engineering.
6. Maternity and Child Welfare.
7. Statistics.
8. Physiological and Industrial Hygiene.

During the academic year 1960-61, 332 students were on the roll to the various degrees and diploma courses as shown below:—

Courses	Indian students	Non-Indian students	Total
Diploma in Public Health (D.P.H.)	65	1	66
Licentiate in Public Health (L.P.H.)	3	..	3
Diploma in Industrial Hygiene (D.I.H.)	7	..	7
Diploma in Maternity and Child Welfare (D.M.C.W.)	12	..	12
Diploma in Dietetics (Dip. Diet.)	13	..	13
Master of Engineering (P.H.), M.E. (P.H.)	34	..	34
Certificate in Health Education	6	..	6
Certificate in Public Health Nursing	33	5	38
Public Health Nursing Supervision	11	..	11
Certificate Course in Laboratory Technique	20	..	20
Certificate in Public Health Engineering	14	..	14
Certificate Course in Medical Statistics	1	..	1
Orientation Training Course (Singur)	105	..	105
Preventive and Social Medicine	2	..	2
TOTAL	326	6	332

The staff of the Institute also participated in the teaching programme of other local institutions, *viz.*, the Calcutta School of Tropical Medicine, Indian Institute of Social Welfare, College of Obstetrics and Gynaecology of Chittaranjan Seva Sadan, Calcutta and so on.

The urban and rural community controlled practice field of the Institute in Chetla and Singur continued to render assistance in field training to students of this and other institutions.

From the 1st October, 1960, the Institute assumed the responsibility of stocking and despatch of yellow fever vaccine to different centres of the country. Previously these were being done by the Haffkine Institute, Bombay. Four hundred persons were inoculated against yellow fever at this Institute during the year 1960.

Research activities :

Epidemiological studies on cholera and smallpox in Calcutta continued during the year 1960. A study was undertaken to find out the relationship between blood groups and susceptibility to smallpox. Epidemiological studies on diphtheria in both Calcutta and Singur were conducted during the year under review. Studies of the strain of *C. Diphtheria mitis* isolated from diphtheria cases admitted in the hospital showed that all strains were not virulent as

provided by guineapig inoculation tests in the laboratory. The role of this non-virulent strains in the epidemiology of diphtheria was under study.

Epidemiological investigations of an out-break of acute gastro-enteritis in the hostel of the Marine Engineering College, Calcutta, was undertaken. The disease was suspected to be one of the *Salmonella* types of food poisoning and this was later confirmed by bacteriological examination of stools of persons showing symptoms of the disease. *S. enteritidis* was isolated in pure culture from the stools of persons who fell sick during the out-break.

An out-break of infective hepatitis at the campus of the Indian Institute of Technology, Kharagpur was jointly investigated by this Institute in collaboration with the staff of West Bengal Health Directorate. The study of the pattern of the epidemic and the geographical distribution of the cases showed that infection was probably water borne and this was also supported by inspection and examination of the different drinking water sources and their distribution within the campus.

Reports on the health survey of the Dungarpur Community Development Block (Uttar Pradesh) were completed and submitted to the appropriate authorities.

In the field of food and nutrition protein malnutrition has been taken up as a subject for several research topics. It was shown by animal and human experiments that dietary protein and the amino-acids methionine play an important part in the synthesis of cholesterol in the body.

In another study, the effect of protein malnutrition on the structure and function of gastro-intestinal tract was investigated. Clinical and epidemiological studies have shown that diarrhoea precedes the clinical manifestations of kwashiorkor. In the investigation carried out during the year under review, it was shown that protein deficiency caused widespread damage in the different layers of the intestinal wall and also in the enzymic contents of the intestinal mucosa.

Identification of food colours are being conducted. A systematic method based on chromatography and spectrophotometry is being developed for identification of these food colours. These methods also simultaneously give an indication of their purity.

Extensive surveys have been conducted in Uttar Pradesh and Bihar to collect information on the magnitude of water pollution problem created along stretches of major rivers in this region from industrial wastes. Laboratory and Pilot Plant Studies on methods of treatment for sugar and distillery wastes were completed. Laboratory work on the efficiency of *strychnos potatorum* seed as coagulant was started. Preliminary results have been shown that this material may be of use under certain water conditions.

The physiological and psychological aspect of the deposed child and the behaviour problem in children have been investigated.

An enquiry into the causes of maternal mortality revealed that nearly a quarter of the deaths occurred to undelivered mothers and that the proportions of live and still deliveries were nearly equal to

each other. This suggested a much higher risk of maternal deaths to mothers delivering a still baby in comparison to those delivered live-babies. The three major specific causes which accounted for more than 40 per cent of the total deaths were (a) anaemia of pregnancy (17.1 per cent), (b) toxæmia of pregnancy (16.4 per cent) and (c) Spesis of child birth and puerperium (8.9 per cent).

In order to investigate the aetiological factors and particularly the role of heredity in the causation of leukoderma, a study was undertaken with the help of the Skin Department of the School of Tropical Medicine, Calcutta. Factorial analysis as applied to the different types of sibships indicates a slight tendency for leukoderma to be hereditary.

Investigations on the use of metaxylohydroquinone as an oral contraceptive is being continued. Continuous enrollment of married women for trial, administration of the drug, periodic examination of samples of blood, urine, etc., continued in the Calcutta trial for a period of four years from January 1956. The main objectives of the study having been fulfilled, it was practically closed by the end of the year 1959, when new enrollments and other routine examinations were discontinued, but only the drug administration continued to 75 women, who were still under roll. At the end of 1960, this number dropped to 55, the rest having become pregnant during the year or discontinued for other reasons. This group contained 20 women who had been continuously taking drug since last two or three years.

During the entire period of the trial over 400 women had at sometime or other taken the drug for varying durations. It was through that a follow up study of this group would yield information which would be of interest for this study. It was, therefore, planned to collect the following information by a single visit, *viz.*,

- (a) Whether she used any other method during trial period.
- (b) Whether she is willing to accept the drug, if offered, again.
- (c) If she was pregnant during the trial, some particulars about the health of the baby born.
- (d) Whether she had any subsequent pregnancy after discontinuation of the drug.

Rural and Urban Health Units :

In 1939, the Singur Health Centre was established by Rockefeller Foundation in collaboration with the Government of Bengal. Since 1945, it has been developed and a rural community practice field attached to the Institute is imparting training to the students as also to conduct research in evolving suitable methods for the solution of rural health problems. Presently, known as the Rural Health Unit and Training Centre, it covers an area of 57 sq. miles with a population of one lakh. The Institute has also established an Urban Health Centre at Cheltha, Calcutta, covering an area of 2.1 sq. miles and a population of 62 thousands to provide the students with increasing opportunity for studying health problems in the urban areas.

The research activities conducted by these two centres during the year under review cover various aspects of public health like epidemiology, food and nutrition, tuberculosis, family planning, school

health, etc. In the field of nutrition, investigation of dietary habits of pregnant and lactating women were done to get an idea as to the actual nutrient intake of poor women living in the slums during these two physiological states. The food habits and the different factors behind these were also collected. Protein malnutrition is a very important problem amongst the children especially in the low socio-economic strata and studies were conducted to determine whether the supplementation of existing diets with cheap vegetable protein can improve the health and the nutrition status of the children. It has been seen that Bengal gram can improve the health and the nutrition status of the children, significantly, if supplemented with the daily diet. Investigations have also been done among the rural women to test the different methods of nutrition education and to observe the effects on the rural mothers and to assess how far they are suitable in rural area.

Studies on the incidence of dental caries and helminthic infestation in children in both the rural and urban areas have also been conducted. The effects of helminthic infestation on the nutrition status of men have been started and it had been shown that helminthiasis can affect the nutrition status of many of the nutrient especially that of protein. Other investigations which have been carried out in these two centres are the investigation of diarrhoea of children, study of health status of school children with special reference to their average height and weight and social status.

CENTRAL INSTITUTE OF RESEARCH IN INDIGENOUS SYSTEMS OF MEDICINE, JAMNAGAR

The research activities during the year 1960 in the Institute were devoted to the (1) Grahani Vikara, (2) Udara Roga and (3) Amavat in In-patient Department and Gandupadkrimi, Swas roga and Kalanjapadie in Out-patient Department level.

The above mentioned first three diseases are supposed to be due to the deficiency of agni (digestive power). Therefore, the Ayurvedic team undertook the study of the nature of the deficiency of agni in the above mentioned diseases.

Palash Bija and Pushkara Moola Choorna were selected to be given to the patients suffering from Ascarasis and Asthma troubles respectively. The results of the above mentioned medicines were watched and recorded. Besides, the nature of Ama Dosha causing Amavat and other meledies were also studied with a special reference to the deficiency of digestive power. The pathology of the above mentioned maladies (Grahani, Amavata and Udara Roga) were also studied together with their applied Physiology. The modern team also recorded the results of their investigations according to the modern medicines of the cases suffering from the above mentioned diseases. Both the teams tried their best to understand each other in all aspects viz., diagnosis and treatment of the diseases taken under investigations. The Sidha team undertook study and investigations on the following diseases:—

Kalanjapadai, Kadichchal, Shoolai, Kudarpuzhanoi, Vellapunoi, Erruppunoi and Kamalai.

The results of the investigations done on above mentioned diseases and the evaluation of the drugs used in the treatment were published in the report. Some scientific papers were also prepared on the basis of the above mentioned investigations, which will be published in the bulletin of the Institute in the near future. The following papers were ready:—

- (1) Clinical study of Grahani Vikaras.
- (2) Study of Ama dosha.
- (3) Clinical study of the pathogenesis of Amavata.
- (4) Clinical study of Ascites and its Ayurvedic treatment.
- (5) Comparative study of Rheumatic condition found in this locality.

The Department of Pharmacognosy undertook the detailed study of palash bija and prepared paper on the Pharmacognostic study of Palash bija (*Butea Frondosa*). In addition to this they have made collection of specimens of medicinal plants and have done cultivation of some important medicinal plants for demonstration purposes in the Institute's compound.

The Department of Bio-chemistry undertook the chemical analysis of the active principles of *Butea Frondosa* in addition to the routine work of Bio-chemical clinical investigations. The Dharshan Shastri collected the literature on psychological descriptions from Ayurveda and other Indian literature and has prepared a paper in Sanskrit on "Manastattva Viveka". The Modern Pharmacist has completed the preliminary investigations on Mandoora and Puner-nava Mandoora.

CHAPTER XIV

INDIGENOUS SYSTEMS OF MEDICINE AND HOMOEOPATHY

(287—292)

INDIGENOUS SYSTEMS OF MEDICINE AND HOMOEOPATHY

Hospitals and Dispensaries of modern medicine run under the auspices of the State Governments or Municipalities and other private bodies situated mostly in cities. It has been estimated that the medical needs of over 85 per cent of the population of India, living in its 5,00,000 villages, are met by the agency of Ayurveda including Siddha and Unani Systems of Medicine. Apart from the inadequacy of qualified practitioners of modern medicine to meet the overall medical needs of the vast population, a bulk of them are available for the most part in urban areas. The development of the Indigenous Systems of Medicine is, at present, the main source of medical relief for a large section of people particularly in rural areas.

The Central and State Governments are taking keen interest in the development of Ayurveda on scientific lines to enable the system to contribute to the health of the nation. While the Centre is concerned with the promotion of scientific research and post-graduate education of the System, the States are directly concerned with the education and practice of the System.

Enquiry Committees, consisting of eminent authorities on modern medicine and Indian systems, were set-up from time to time, by the Central Government and State Governments to study and recommend how best the education in these systems can be improved and the services of these practitioners utilised in the country's health development schemes.

The Government of India had provided a sum of Rs. 37.5 lakhs in the First Five Year Plan period for promotion of research in Indigenous Systems of Medicine and Rs. 100 lakhs for the Central Schemes and Rs. 521.83 lakhs for the State Plans were provided for the development of these systems. Out of Rs. 100 lakhs provided in the Central plan for the Second Five Year Plan period, a total of Rs. 71.82 lakhs were sanctioned upto the end of 1959-60. In the current year an amount of Rs. 6.78 lakhs has so far been granted to the various private institutions by way of direct grants for research etc. These amounts do not include the Central assistance given to Government institutions in the State Governments as decided by the Working Group of the Planning Commission before the commencement of the financial year. Requests for payment of grants were scrutinised by the respective Sub-committee of the Central Council of Ayurvedic Research and other Advisory Committees taking into account the recommendations of the State Government and the work done in the institutions.

The first meeting of the Central Council of Ayurvedic Research was held in December, 1959 when it considered in detail the various recommendations of the Udupa Committee and constituted Sub-Committees to deal with the following items of work:—

- (i) Literary Research.
- (ii) Clinical Research.
- (iii) Research on Fundamental Principles.

- (iv) Subject-wise text books.
- (v) Central journal of Ayurvedic Research.
- (vi) Preparation of a uniform syllabus and curriculum of studies and related recommendations of Udupa Committee.
- (vii) Pharmacological Research and preparation of Ayurvedic Pharmacopoeia.
- (viii) Survey of medicinal plants.

The first six Sub-committees have met and submitted their reports. Their reports were considered by the Central Council in its second meeting held on the 8th, 9th September, 1960. Further action is being taken in the light of the recommendations of the Central Council.

The Advisory Committees for Homoeopathy and Unani Systems of Medicine continued to function. These Committees have set-up Sub-Committees to examine specific problems.

In addition to the above, Central assistance was given to Nature-Cure Institutions and the Central Government continued to maintain the Central Research Institute in Indigenous Systems of Medicine and the Post-graduate Training Centre at Jamnagar as a part of its programme for the development of the Indigenous Systems of Medicine.

During the year 1960, the total number of registered Ayurvedic and Unani practitioners were above 1,16,865. 96 teaching institutions in Ayurveda System of Medicine were functioning of which one institution in Punjab State was not recognised. The State-wise distribution of Ayurvedic Hospitals and Dispensaries are shown in Table 75.

The activities of the States in respect of research, education, relief and registration are briefly summarised below:—

Assam—The Board of Ayurvedic Medicine, Assam carried out its work of registration of qualified Ayurvedic Practitioners. The only Ayurvedic College, Gauhati continued to function in training candidates in a four years' course for the diploma of Ayurvedic Medicine and Surgery (D.A.M.S.) with the title of "Ayurvedic Shastri".

There were also some homoeopathic practitioners with drug shops in the State.

Bihar—Grants were given to Ayurvedic and Unani Practitioners and Dispensaries for rendering medical relief by Government in the Health Department.

The State Government have enacted a legislation known as "The Bihar Development of Ayurvedic and Unani Systems of Medicine Act, 1951 to provide for the development of Ayurvedic and Unani Systems of Medicine and to regulate its teaching and practice in the State of Bihar." This had come into force with effect from 18th January, 1952. A Bihar State Council of Ayurvedic and Unani Medicines was constituted by Government consisting of 29 members including the President.

The Degree of G.A.M.S. was conferred by the State Faculty upon those who had their studies for five years in Ayurvedic Colleges of the State affiliated to the Faculty. The Degree of G.U.M.S. was conferred by the State Faculty upon those who had their studies for four

years in the Government Tibbi College, Patna which is also affiliated to the Faculty.

The following four Ayurvedic Colleges and one Tibbi College in the State were affiliated to the State Faculty:—

1. Government Ayurvedic College, Patna.
2. A. S. K. Ayurvedic College. Begusarai.
3. S. Y. N. A. Ayurvedic College, Bhagalpur.
4. Ayurved College, Motihari.
5. Government Tibbi College, Patna.

Persons practising inside the State of Bihar were eligible for registration under Section 22 of the Bihar Development of Ayurvedic and Unani Systems of Medicine Act, 1951 possessing the qualifications mentioned in the schedule to the Act.

5,152 Vaidyas, 737 Hakims and 35 Surgeons were registered during the year under report.

Gujarat—The Director Ayurvedic Medicine, Gujarat State has been working since 1960.

There were 12 Ayurvedic Colleges in the State including the Institute of Ayurvedic Studies and Research, Jamnagar. These colleges are awarding Diploma in Suddha Ayurvedic Course i.e., D.S.A.C. and the course is of 5 years duration. B.M.P. Act, 1938 was in force in the State. The unification of Act was under consideration of the State Government. One Ayurvedic Pharmacy was also running under the control of the State Government. The existing Board of Homoeopathic System of Medicine, Bombay State continued to function for both the States (Gujarat and Maharashtra) during 1960. Approximately there were about 200 homoeopathic practitioners in Gujarat State.

Kerala—There were 35 hospitals during the year for treatment on Ayurvedic lines. There were also six Visha Vaidya Hospitals. 1,541 in-patients and 14,74,132 out-patients were treated as against 5,227 in-patients and 12,48,750 out-patients treated during the previous year. 178 Government Ayurvedic dispensaries functioned during the year as against 159 in the previous year. The number of patients treated in these institutions were 31,27,760 in 1960. There was no Unani Institution during the year under review. Facilities for the treatment of snake bite and other animal bites existed in one Visha Vaidya Hospital, 12 Visha Vaidya Sections were attached to Ayurveda Hospitals and 6 Sections to Visha Vaidya Dispensaries.

Two Ayurvedic Colleges, one at Trivandrum and the other at Thrippunithura functioned during the year under report. Clinical research work in the Ayurvedic College, Trivandrum was continued in a separate ward with 20 beds. Selected cases were admitted and treated purely on Ayurvedic lines but diagnosis and investigations were conducted on Ayurvedic as well as on Allopathic Systems of Medicine.

There was one Homoeopathic Hospital and five Dispensaries functioning in the State during 1960. 221 in-patients and 4,75,214 out-patients were treated. The syllabus and regulations of the newly started Homoeopathic Diploma Course were approved and the first Intermediate Examination in Homoeopathy was conducted during the year under report.

There was no Unani Institution during 1960. The registration of Practitioners in Indigenous Systems of Medicine (Ayurveda, Siddha) is covered by the provisions of Travancore-Cochin Medical Practitioners Act.

The Homoeopathic practitioners are also registered under the provision of the Travancore-Cochin Medical Practitioners Act by the Council of Homoeopathic Medicine which consisted of 5 members.

Madras—The Government College of Integrated Medicine, Madras was the only Government teaching institution in Ayurveda, Siddha and Unani System of Medicine in this State. It afforded instruction to the G.C.I.M. course in Ayurveda, Siddha and Unani Systems. The G.C.I.M. course is of 5½ years duration (including one year of House Surgeonship). In 1960, the College of Integrated Medicine, Madras was converted into Madras Medical College for teaching M.B.B.S. students with the name of Kilpauk Medical College. Research on Indigenous Systems of Medicine was carried out in the Research Department of Siddha, Ayurveda and Unani college. The question of opening a separate college in Madras State for teaching Indigenous Systems of Medicine was under consideration of the State Government. The Panchayat Union and the Municipalities in the State continued to maintain Dispensaries of Indigenous Systems of Medicine to afford relief to the public.

The practitioners of Indian Systems of Medicine are registered with the Central Board of Indigenous Medicine, Madras.

Madhya Pradesh—Three Government Ayurvedic Hospitals, 697 dispensaries including 178 aided ones, one Unani hospital and 22 Unani dispensaries were catering to the needs of the people. One Homoeopathic Sanatorium and one Homoeopathic dispensary were also functioning in the State.

The Government Ayurvedic Colleges one each at Raipur and Gwalior were imparting Ayurvedic education. 50 new students were admitted and 35 students qualified during the period covered by this report. Besides, the Government gave grant to 2 private organisations for running two Ayurvedic Colleges at Indore. One team of research workers under Harbal Research Branch was deputed to undertake survey of medical plants at Panchmari. The other team under this branch started collection of herbs at Guna and Dhan Centres.

For Registration, two Boards were in existence viz., (1) Indian Medicine Board (M.B.), Gwalior and (2) Board of Ayurvedic and Unani Systems of Medicine (M.K.), Jabalpur.

Mysore—The Ayurvedic and Unani Hospitals and Dispensaries in the State of Mysore were functioning satisfactorily to render medical

relief. Of these, 2 were General Hospitals, 457 Ayurvedic Dispensaries, 69 Unani Dispensaries, 2 Homoeopathic Dispensaries and the rest were others during the year 1960.

Amongst the teaching Institutions on Indian Medicine, one was Government Ayurvedic and Unani College, Mysore. There were 3 private Ayurvedic Colleges at Bellary, Belgaum and Bangalore. 7 Suddha Ayurvedic Vidyalyayas were already in existence in the State. 2 more Vidyalyayas were opened, viz., (1) The College of Indian Medicine, Bedkihal, Belgaum District, (2) Suddha Ayurveda Vidyalyaya, Gadag, Dharwar District. The total strength of students in all institutions was 862. The duration of G.C.A.M. degree course is of 5½ years and that of D.S.A.C. course is of 4 years.

There was no registration Act in force.

There were two homoeopathic dispensaries during 1960 maintained by all Karnataka Homoeopathic Medical Association. A grant-in-aid of Rs. 50 per month was sanctioned to the Homoeopathic Medical Association, Bangalore during the year 1960.

Orissa—There were 106 Ayurvedic dispensaries beside one hospital. There was a diploma course (D.A.M.S.) given in Gopabandhu Ayurvedic Vidyapith, Puri. This was stopped and proposal for teaching Siddha Ayurveda was under examination which has since been finalised.

West Bengal—There were three non-Government Ayurvedic Institutions in the State. In order to bring the Ayurvedic System of Medicine under the Government control a bill is being prepared by the State Government styled as "The Paschim Banga Ayurvedic System of Medicine". It was also contemplated therein to establish a State College as early as possible. After establishment of State College in Ayurvedic, Government may take up for consideration of a Research Institute and a Herbarium Research work on certain Ayurvedic drugs will be carried on with the financial assistance from the Government of India in one of the existing Ayurvedic Institutions.

There is a Council functioning known as "General Council and State faculty of Homoeopathic Medicine" in this State set up under the executive order of the State Government. This council gives registration to those who can successfully complete a course of study approved by the Council and prescribed in Institutions affiliated to it. The existing institutions both teaching and hospitals are run by private organisations. With a view to give a status to the practitioners of Homoeopathic System of Medicine and to improve the teaching and training in that system a bill styled as "The West Bengal Homoeopathic System of Medicine Bill" is being prepared by the State Government.

Andaman and Nicobar Islands—There has been no Systems of Ayurvedic and Unani Medicine in existence in this Territory. There was also no teaching facilities available here for these Systems of Medicine.

Delhi—86 Ayurvedic and Unani practitioners were registered with the Board of Ayurvedic Unani System of Medicine, bringing the total registrate to 1,724 practitioners.

Two Colleges, viz., Ayurvedic and Unani Tibbia College, New Delhi and Jamia Tibbia College, Delhi are affiliated with this Board. The period of study in the institution is of 5 years for Higher Secondary or Intermediate passed students and 6 years for Matric passed students.

One and a half year condensed degree course in Ayurvedic after obtaining 4 years diploma from an affiliated or recognised institution was introduced in 1960. 48 students of Ayurvedic and Unani qualified in the final professional examination of Diploma Course during the period covered by this report. 30 and 18 students were awarded Bhishagacharya Dhanwantari (D.I.M.S.) and Kaniel-i-tib-o-Jarabat (D.I.M.S.) respectively.

The Ayurvedic and Unani Tibbia College, New Delhi functioned satisfactorily and a good deal of work was done in the field of Ayurvedic and Unani Medical relief and education during the year under report.

One Ayurvedic Municipal dispensary, under the control of New Delhi Municipal Committee, was catering to the needs of the patients. 66,580 patients were treated.

Himachal Pradesh—No registration Act is in force in this Pradesh for the registration of Ayurvedic and Unani Practitioners. A proposal, however, for starting a registration Council was under consideration during the year 1960.

Laccadive Islands—There are no Ayurvedic or Unani practitioners in this Union Territory. No registration is in force or under contemplation regarding the registration of such practitioners.

Manipur—No Ayurvedic Institution existed in 1960. However, a sum of Rs. 8,200 was provided in the State budget for grant-in-aid to Ayurvedic Aushadalayas.

Tripura—There is no Ayurvedic Hospital in Tripura Administration. The out-door treatment on the line of Ayurvedic System of Medicine was arranged through one dispensary situated in the heart of the town. There was one manufacturing Unit of Ayurvedic medicines attached to the dispensary. All medicines necessary for the dispensary were manufactured by this Unit. Patients were provided with free treatment in the dispensary.

There were 5 homoeopathic dispensaries under the control of the Territorial Council. Free treatment was rendered to the patients at these dispensaries. No arrangement for in-door treatment existed in this system of medicine during the year under report.

CHAPTER XV

VOLUNTARY ORGANISATIONS AND ASSOCIATIONS

1. The Indian Red Cross Society, New Delhi.
2. The St. John Ambulance Association and Brigade (India), New Delhi.
3. The Tuberculosis Association of India, New Delhi.
4. The Hind Kusht Nivaran Sangh, New Delhi.
5. The Trained Nurses Association of India, New Delhi.
6. The All India Medical Licentiates Association, Calcutta.
7. The All India Blind Relief Society, New Delhi.
8. The All India Dental Association, Bombay.
9. The All India Women's Conference, New Delhi.
10. The Bharat Sevak Samaj, New Delhi.
11. The Gandhi Memorial Leprosy Foundation, Wardha.
12. The Indian Medical Association, Delhi.
13. The Kasturba Gandhi National Memorial Trust, Indore (Madhya Pradesh).
14. The Rockefeller Foundation, New Delhi.
15. The Mission to Lepers, Purulia (West Bengal).

VOLUNTARY ORGANISATIONS AND ASSOCIATIONS

THE INDIAN RED CROSS SOCIETY, NEW DELHI

The main problem of the year for the Indian Red Cross was flood relief. Millions of people were subjected to great suffering because of disastrous floods in large areas of Orissa, Punjab, Uttar Pradesh, Bihar, Madras, Himachal Pradesh and Tripura and also in a part of Andhra Pradesh.

To help the State Red Cross Branches in their relief work among the flood sufferers the headquarters gave cash grants totalling a sum of Rs. 2,20,000 besides allotments of supplies including large quantities of milk powder, blankets, clothing, disinfectants, antibiotics, anti-malarials, sulpha drugs and other medicines and vitamins.

At the request of the Assam Branch of the Society for assistance to the victims of disturbances in the State various articles of clothing, multi-vitamin tablets and milk powder were despatched immediately to the State. The Branch was also given a cash grant of Rs. 20,000 for the purchase of necessary relief articles for distribution among the needy. On the arrival of the Assam riot victims in West Bengal the West Bengal Red Cross Branch undertook relief measures among them. To assist the Branch in this work the headquarters sent to West Bengal supplies consisting of multi-vitamin tablets, vitamin capsules and clothes such as blouses, pyjama suits, quilts, sarees, dhoties, shirts, etc. A cash grant of Rs. 20,000 was also given to the Branch to purchase relief articles locally.

To meet the relief needs in the drought affected areas in Mysore State cash grants totalling Rs. 60,000 was made by the Society's headquarters together with a consignment of supplies, including 17,000 lbs. of milk powder, about 1,50,000 vitamin tablets, 220 lbs. of cod liver oil, etc.

Early in the year at the request of the Branch in Kohima, the Society made an allotment of medicines and clothing for distribution in the Naga Hills Tuensang Area.

The Orissa State Red Cross Branch planned to open a Children's Hospital at Cuttack and at its request the headquarters donated to the Branch equipment, instruments, etc., for the hospital valued at about Rs. 2,000.

Early in the year the Director of Health Services, Tripura Administration, Agartala was supplied by air with a consignment of 43 packages comprising blankets, shirts, shorts, sarees, sweaters, blouses, dhoties, etc., and also over 2,000 lbs. of milk powder for the benefit of the victims of a serious fire which ravaged parts of the town of Tripura.

Besides the above, various supplies were made all over the country for the relief of the victims of fire, scarcity condition, epidemics and also for undernourished poor people, children and expectant mothers.

In the course of the year the headquarters directly helped 147 institutions including hospitals, dispensaries, maternity and child welfare centres, schools and orphanages and other social welfare organisations. In addition, milk, medicines and other supplies were

also given to the State Branches for allotment to institutions in their areas.

Assistance to Tibetan refugees in India was continued during the year under report. The Society distributed among them various relief supplies and medicines most of which were received from the Central Relief Committee for Tibetans.

In keeping with the Red Cross tradition of mutual help in times of distress, the Indian Red Cross during the year rendered assistance for disaster relief work in Morocco, Iran, Chile, East Pakistan, Indonesia and Greece.

The outstanding activity of the Indian Red Cross during the year under review and which has brought it credit in the international field was its mission to Congo. At the joint request of the International Committee of the Red Cross and the League of Red Cross Societies who were approached by the Secretary-General of the United Nations in this behalf, a three-man medical team to help the local authorities in meeting an emergency that had arisen in the Congo civilian hospitals due to shortage of medical personnel was sent to that country. The team took charge of a civilian hospital in Lisala in the Northern Province of Equateur and served there with distinction for a term of six months from August, 1960 to January, 1961. During this period their humanitarian work was greatly appreciated by the local population as also by Government authorities and when they left Congo they carried with them the admiration and gratitude of all with whom they came in contact in the course of their duties. The Society is grateful to the Government of India for giving it a grant to enable it to undertake this responsible duty.

Maternity and Child Welfare Services :

The Maternity and Child Welfare Bureau, which is an integral part of the Society's headquarters, continued to render its valuable service in the field of maternal and child health in the country by providing technical and financial aid to Branches and other organisations engaged in this activity.

267 candidates were trained and given dai certificates under the Victoria Memorial Scholarships Scheme.

At the main Centre and five sub-Centres functioning in Tehri-Garhwal the total number of patients treated for minor ailments was 15,098. Maternity cases conducted and attended to by Midwives at four of the Centres totalled 97. The number of home visits undertaken by the midwives and dais under training was 18,437. The visits for ante-natal and post-natal care were 360 and 597 respectively. The average daily attendance of the students at the two Nursery Schools was 88 and for the adult literacy classes 3. Besides, 27 ladies were trained in sewing, knitting, embroidery etc.

Services

World Red Cross Day :

The Thirteenth World Red Cross Day was celebrated on the 8th May, 1960 the day of the birth anniversary of Henri Dunant, the founder of the Red Cross. Almost all the branches in the country enthusiastically participated in the programmes.

The scheme, to set up a Red Cross Blood Bank in Delhi, is making steady progress. The President encouraged the Society with the very first donation towards the Blood Bank Fund and his lead was followed by donations from the Vice-President and the Prime Minister.

Considerable progress was made in the development of nursing services in the country under Red Cross auspices. Since the beginning of the programme in 1956, 246 trained nurses and 277 lay persons have received instructions and training.

The Society continued to run its services for the provision of artificial limbs for deserving civilians and during the year it provided artificial limbs for nineteen persons.

Branches and Membership :

At the end of the year the Society had on its rolls 18 State and 429 Districts and sub-District Branches with a total adult membership of 1,19,453.

The Society provides valuable help to the sick and wounded of the armed forces of the Union in various ways which include the running of the Red Cross Home at Bangalore for totally disabled ex-servicemen, supply of Red Cross amenity stores, library books and newspapers and magazines to Service Hospitals and Red Cross Service providing diversional therapy for patients. These services cost the Society a little over Rs. 4,10,000 in 1960.

Out of its Medical After-Care Fund the Society helped towards the medical treatment of 679 deserving ex-servicemen. A total number of 7,576 cases have so far been assisted from this Fund since its inception with grants aggregating to Rs. 16,66,673.

Junior Red Cross :

Our Junior Red Cross made further progress and had on its rolls at the end of the year a membership of over 25,00,000 boys and girls. Three Inter-State Junior Red Cross Study Centres were held in 1960, one in the Punjab, another in Rajasthan and the third in Madras in which about 400 boys and girls and their adult leaders participated. Some of the Society's Branches such as the West Bengal, Mysore and Punjab held a number of successful Inter-district Study Centres or Holiday Home Camps for poorer children who could not otherwise get such a privilege.

Publicity :

Health education is a live force in the health services of a country and the Indian Red Cross which lays great importance on this aspect of the service has been for the last forty years of its existence making efforts towards wider and greater dissemination of knowledge on health and sanitation. The Society produces and distributes informative literature, posters, lantern slides, health films, etc., besides organising health talks, exhibitions and observance of health weeks from time to time. The health propaganda material is supplied in large numbers to educational institutions, hospitals, maternity and child welfare centres, municipalities, public health bodies, community project organisations and welfare institutions all over India for use in their health education work. The Society brought out a new set of six posters on Tuberculosis and prepared a new set of slides on Malaria and also reprinted a few of its pamphlets and leaflets.

At the end of the year the film library of the Society had 182 films in 35 m.m. and 16 m.m. sizes on various health subjects and these were circulated to subscribers and non-subscribers during the course of the year.

Fund Raising Campaign :

In the month of November the Annual Red Cross Fund Raising and Membership Campaign was organised. With the cooperation of the Army Medical Directorate, the Campaign was also organised, as before, in Service Hospitals. The Society is grateful to the commercial firms for their generous donations towards publicity during this year's campaign.

THE ST. JOHN AMBULANCE ASSOCIATION (INDIA)

AND

THE ST. JOHN AMBULANCE BRIGADE (INDIA), NEW DELHI

The St. John Ambulance Association in India was established in 1910 and has for its objects:—

- (a) The instruction of persons in rendering first aid in case of accident or sudden illness, and in the transport of the sick and injured ;
- (b) The instruction of persons in the elementary principles and practice of nursing and hygiene, especially that of the sick-room ;
- (c) The provision and distribution, by sale or presentation, of ambulance material, and the formation of ambulance depots in or near mines, factories and other centres of industry and traffic ;
- (d) The organisation of Ambulance Corps, Invalid Transport Corps, Nursing Corps and Voluntary Aid Detachments ;
- (e) To assist the sick and wounded in war ; and
- (f) Generally the promotion of instruction and work for the relief of suffering of the sick and injured in peace and war independently of class, nationality or denomination.

The Association has since 1910 issued over 15,78,400 certificates of proficiency in First Aid, Home Nursing Hygiene and Sanitation and Mothercraft and Child Welfare and 78,000 tokens for special proficiency in these subjects such as vouchers, medallions, labels and pendants. Besides, over 1,71,728 certificates were issued in the elementary course for school students known as Mackenzie School Course in First Aid, Hygiene and Sanitation.

The object of the Association is not to rival but to aid the medical man, and the subject matter of instruction given at the classes qualifies the pupil to adopt such measures as may be advantageous pending the doctor's arrival or during the intervals between his visits.

During the year 1960, over 1,53,600 persons attended courses of instruction in First Aid, Home Nursing, Hygiene and Sanitation and Mothercraft and Child Welfare. Of these 1,17,058 qualified for the Association's Certificates, i.e., 1,06,388 in First Aid, 10,047 in Home Nursing, 440 in Hygiene and Sanitation and 183 in Mothercraft and Child Welfare.

The Association had five grades of members, *viz.*, Patrons, Honorary Councillors and Life Members who pay Rs. 1,000, Rs. 500 and Rs. 100 in single payment and annual members and annual associates who subscribe Rs. 5 and Re. 1 per annum respectively.

The President of India is the President of the Association. Its general business is conducted by an Executive Committee of which Rajkumari Amrit Kaur was the Chairman and Major-General C. K. Lakshmanan, the Secretary General.

The St. John Ambulance Brigade is a uniformed disciplined body of men and women, all of whom are holders of First Aid, and in the case of women, also home nursing certificates. They meet together regularly for practice, are inspected and re-examined annually and undertake to turn out for public duty whenever required.

The Brigade in India was commanded by Rajkumari Amrit Kaur as Chief Commissioner, and Major General C. K. Lakshmanan was the Surgeon-in-Chief.

The Brigade Organisation comprises 20 districts covering a number of States and Railways in India with headquarters at Bangalore, Bhubaneswar, Bombay, Calcutta, Chandigarh, Gorakhpur, Hyderabad, Indore, Jaipur, Lucknow, Maligaon, Madras, New Delhi, Patna and Shillong. At the close of 1960, there were 1,167 Brigade Divisions—621 Ambulance, 145 Nursing, 294 Cadet Ambulances and 107 Cadet Nursing, with a total personnel strength of over 27,300.

In charge of each district there is an Assistant Commissioner or a Commissioner according to the membership strength of the District and as the work of the Brigade lies so much in the medical and surgical sphere, the Officer-in-Charge of the districts in the States are generally the administrative heads of the Civil Medical Departments. It is their duty to organise and maintain the training and efficiency of Ambulance and Nursing Divisions and to see that they are available for public service on occasions when they are required.

THE TUBERCULOSIS ASSOCIATION OF INDIA, NEW DELHI

The Tuberculosis Association of India enters its twenty-second year of existence and recorded satisfactory progress in its work. During these years, the Association made emphasis on the utility of modern methods of tuberculosis control work with the resources available to it. In short the activities of the Association were so developed as to be of demonstrative value in anti-tuberculosis work in India.

As in previous years, during the Seal Sale Campaign, the Association published voluminous material of educative value in newspapers all over the country through the donations of the commercial community. Methods of preventing the spread of tuberculosis, possibilities of treating cases in their homes with advantage to the community, importance of care-committees, etc., were emphasised.

A number of propaganda films are now available with the Association. They are, *viz.*, "Papworth Village Settlement and Defeat Tuberculosis"; "BCG—A New Beginning"; "Personal Episode and Rural Health", "Inside Story"; "Rodney and Dynamics of the Tubercle"; "This is Tuberculosis". During the year some of these were

exhibited in Jammu and Kashmir, Jaipur, Tripura, Indore, Punjab, Rohtak and Ahmedabad.

The Indian Journal of Tuberculosis entered its eighth year of publication in September, 1960. Considered medical opinion in the country maintain that the Journal is a useful publication among the Medical Journals published in India and abroad.

The Association organised the Sixteenth Workers' Conference in Poona from the 18th to 22nd January, 1960. Over 250 delegates including Social Workers, members of the nursing profession and representatives of Care Committees from different parts of the country attended the conference.

The Eleventh Conference of Secretaries of State Tuberculosis Associations and officials of Seal Sale Organisations discussed at length organisational and functional matters relating to the efficient functioning of the State Tuberculosis Associations. The Conference agreed that while the non-official character of State and District Associations should be preserved it would be advantageous to have government officials as also active members on their Committees as it would provide some stability to these Organisations. The Conference suggested that the Secretary, Tuberculosis Association of India should visit as many States and Districts as possible and study the working of State and District Associations. It was also recommended that the Centre may award a trophy for the best organised district association.

Seal Sale Campaign :

The 1960 Seal Sale Campaign was the eleventh organised by the Association. The Campaign started as usual on 2nd October, the Mahatma Gandhi's birthday. A total of 96,22,000 seals were distributed to the States, the largest quantity having been taken by the Tuberculosis Association of Uttar Pradesh. In response to appeal made by the Central Association for assistance in publicising the campaign generous donations were received. 189 firms donated newspaper space totalling about 4,600 column inches valued approximately at Rs. 92,000 while 144 firms gave cash donations for buying space amounting to Rs. 20,615. These donations were utilised for publicising the campaign and carrying out anti-tuberculosis propaganda.

Poor Patients' Fund :

The resources in the Poor Patients' Fund of the Association as on 1st January, 1960 was Rs. 2,25,504. Of this a sum of Rs. 1,54,935 remained invested in government securities. To the balance of Rs. 70,569 was added a sum of Rs. 10,029 received as donations and interest on investment during the year under report. Thus the amount available during the year was Rs. 80,598. Out of this a sum of Rs. 14,000 was earmarked to be given as contributions to State Associations in order to help them to start their Poor Patients' Fund. Assistance from the Fund is given by way of small cash grants to indigent patients who are unable to obtain assistance from other sources to buy special medicines or to supplement their diet. The total amount spent in 1960 amounted to Rs. 3,044 and the total amount spent from 1949 to 1959 amounts to Rs. 51,41,381.

The Association has been asking State Governments and State TB Associations to start their own Poor Patients' Fund. It is understood that such funds exist in Andhra Pradesh, West Bengal, Delhi, Madras, Madhya Pradesh, Orissa, Punjab and Uttar Pradesh. Himachal Pradesh, Kerala and Maharashtra States do not give financial assistance but other aids are given.

Employment Service :

For assisting qualified and trained personnel in securing suitable employment in Tuberculosis Institutions, the employment service started by the Association has proved to be very useful. The Association recommended during the year trained doctors, health visitors and technicians to Hoshiarpur, Ambala, Tiruchirapalli, Dhanbad, Simla, Patna and Nagpur.

Training Courses :

The training programme of the Association consisted as usual training of doctors, health visitors and nurses. Doctors undergoing D.T.D. course of Delhi University received part of their training in New Delhi Tuberculosis Centre and in the Kasauli Sanatorium. The All India Institute of Medical Sciences and Kalawati Saran Hospital utilised the facilities available in the Mehrauli Tuberculosis Hospital for training their students in tuberculosis work. In view of the important part that health visitors are required to play in carrying domiciliary services the Association modified the syllabus for training this class of workers from 1959. A total of 150 applications were received for the 1960 class and out of them 21 selected. Thirteen candidates passed the prescribed test.

The facilities available in the New Delhi Tuberculosis Centre, Lady Linlithgow Sanatorium and the Mehrauli Tuberculosis Hospital were utilised by the College of Nursing for giving practical training to their student Nurses. The facilities in the Mehrauli Tuberculosis Hospital were utilised also by the Lady Hardinge Medical College and Hospital and the Holy Family Hospital for training their pupil Nurses in tuberculosis work.

Associations' Institutions :

The Tuberculosis Association of India has three institutions under its control, viz., Lady Linlithgow Sanatorium, Kasauli, Tuberculosis Hospital, Mehrauli and the New Delhi Tuberculosis Centre.

The combined bed strength of the Kasauli Sanatorium and the King Edward Sanatorium in Dharampore, which are maintained as one unit by the Association was 400. The Sanatorium continued to function as a Teaching and Demonstration Centre during the year 1960, and 868 patients were treated in the institution of whom 522 were discharged.

The New Delhi Tuberculosis Centre continued its community service programme during the year under report. The clinical section registered 71,621 new cases, of whom 4,588 were tubercular. During the year 10,800 screenings were done, 70,432 skiagrams taken and 58 tomograms were also done.

The total number of beds available in the Mehrauli Tuberculosis Hospital was 350. Of these 54 form a block for treatment of tuberculosis children and 52 for isolation of advanced cases. The number

of children admitted during the year was 148, and those discharged was 150. The number of adult patients admitted during the year was 507 and those discharged was 511.

Institutions in India :

An important publication periodically brought out by the Association is the Directory of Tuberculosis Institutions in India. This serves as a handbook showing details of Tuberculosis Institutions in the country, how they are staffed and what facilities are available for treatment.

According to information made available for the fifth edition of the Directory at the end of July 1960 there were in India 138 sanatoria and hospitals, 218 clinics and 152 wards attached to general hospitals with a total bed strength of 26,445 and 18 centres for the rehabilitation of ex-patients. The present figures show an increase of 4 sanatoria and hospitals, 44 clinics, 6 wards and 4,307 beds over 1956 figures.

THE HIND KUSHT NIVARAN SANGH, NEW DELHI

The Hind Kusht Nivaran Sangh functioned with its headquarters in New Delhi and had 10 Branches in the States. It has the privilege of having as its president the President of India. Its affairs were managed by a Governing Body of which Rajkumari Amrit Kaur was the Chairman, Major General C. K. Lakshmanan was the Honorary Secretary and Shri P. C. Padhi was the Honorary Treasurer. On the Governing Body are represented officials and non-officials including representatives of other voluntary agencies engaged in leprosy work. An Organising Secretary and a Health Education Officer are attached to it.

During the year 1960 the Organising Secretary undertook tours to Bihar, Orissa, Andhra Pradesh and Mysore with a view to visit voluntary institutions undertaking leprosy work and to stimulate them to undertake planned leprosy control work around their institutions. He reported that many voluntary institutions were not only willing but eager to cooperate with Government in their plans of leprosy control.

Dr. P. Sen, the Health Education Officer of the Sangh, worked from January to June, 1960 in collaboration with the Greater Bombay Leprosy Control Scheme and submitted an interesting report. Later in the year Dr. Sen went to Sri Niketan, West Bengal to carry out in collaboration with the Director of Social Education Organisers' Training Centre an intensive study of the practical application of some of the modern aids of health education in obtaining better participation of the patients and the people for leprosy control.

On the recommendations of the Sub-Committee appointed by the Sangh for doing health education work, Dr. Sen prepared the following materials:—

1. A pamphlet on leprosy for doctors.
2. A pamphlet for health workers and social workers.

During the year under review the Sangh conducted two physiotherapy training courses, one at Vellore and the other at Purulia. The Sangh tried to induce various institutions to send their Medical

Officers for a short Refresher Course in leprosy to be started at the Christian Medical College and Hospital, Vellore so that they would be in a position to help and supervise the work of the physiotherapy auxiliaries.

The Hind Kusht Nivaran Sangh and its Branches organised the observance of "World Leprosy Day" on the 30th January 1960, a day sacred to the memory of Mahatma Gandhi. It was observed with great enthusiasm throughout India.

Publicity materials published by the Sangh was stocked and issued from the Red Cross Depot through the courtesy of the Indian Red Cross Society. The total value of the articles issued from the Depot during the year 1960 was Rs. 4,156.27 as against Rs. 2,993 of the previous year. These included 4,781 booklets and 7,037 posters. The Sangh published "Leprosy in India". It also assisted in the circulation of "Leprosy Review" published quarterly by the British Leprosy Relief Association, London.

The activities in respect of the various State Branches are described as follows:—

Brief Reports of State Branches :

1. *Andhra Pradesh*—The Hind Kusht Nivaran Sangh in collaboration with State Government was doing useful work in the eradication of leprosy. There were several clinics, and hospitals. Besides, there were several subsidiary centres in the State. Survey, education and propaganda work were done by the staff of the State Branch. During the year 1960 two kinds of training courses were conducted for the Medical Officers in the State ; one week refresher course and eight weeks' intensive course. The Leprosy week conducted by the Sangh was a great success.

Madras—The State Branch worked in cooperation with the Government and other voluntary agencies. It had 11 District Branches which were responsible for increasing the leprosy consciousness of the people to a great extent. The Sangh conducted propaganda work through its publicity van and audio-visual equipment by running exhibitions, conducting public meetings and through personal contact with the patients. The Wallajah Leprosy Control Scheme, the Belgian Leprosy Centre, the German Leprosy Centre and other voluntary institutions and Government hospitals and clinics in the State worked for the eradication of leprosy. The Honorary Secretary tried to stimulate voluntary agencies to take up planned leprosy control work.

Maharashtra—The Maharashtra State Council members consisted of officials and non-officials. The work of the Sangh consisted in running clinics, doing publicity and propaganda work. During the year 1960 at the Kondhawa Hospital, Poona, a physiotherapy training course was conducted. Physiotherapy treatment was introduced at the Ambewadi Clinic (run by the Hind Kusht Nivaran Sangh) where patients were taught on the care of hands and feet and exercises were given to their hands.

Mysore—The State Branch of Hind Kusht Nivaran Sangh continued to maintain cordial relationship with State Departments of Medical and Public Health and the private organisations working

in the field of leprosy in the State. The main principle of leprosy control work in the State was case-detection and treatment on domiciliary pattern. An additional progress in the field of leprosy was seen in the establishment of "Navajeevan Nilaya" for the rehabilitation of cured patients. The State Branch formed some District Branches, during 1960.

Orissa—The State Branch of the Sangh maintained 22 domiciliary treatment centres, 140 rural leprosy clinics, 9 colonies, one Leprosy Home and Hospital in the different districts during the year under report. The Executive Committee met twice and an Annual General Meeting was conducted in January, 1960.

Punjab—The State Branch is intimately related to the State Public Health Department with the Director of Health Services as its head. All the anti-leprosy work in the State is thus being done in close co-operation by these two bodies through the State Leprosy Officer with his headquarters at Palampur in Kangra District. There were 34 clinics in this State run by different local bodies. Propaganda and Publicity work were being done by the staff of the Sangh.

Uttar Pradesh—With the help of voluntary institutions and Government institutions the Sangh carried on the Anti-Leprosy work in the State. 18 Government Leprosy Institutions were working in the State. During the year under review three out-door clinics were opened at Kushinagar, Anandnagar and Kouriram. A newly built hospital was opened by the Chief Minister of Uttar Pradesh. Rehabilitation of the cured patients also received attention from the State Branch. Two Honorary Organising Secretaries were working under the Sangh.

West Bengal—Propaganda work was done by organising exhibitions and distributing leaflets and pamphlets. The Sangh did survey work in many districts of the State. Lecture-demonstration and talks were given to the public by the members of the State Branch. The Sangh resolved to concentrate solely on survey, teaching, health education and the establishment or help towards establishment of preventoria.

THE TRAINED NURSES ASSOCIATION OF INDIA, NEW DELHI

The construction of Trained Nurses Association of India headquarters at 16-17 Green Park, New Delhi, started in 1960. The Association participated in an "International Seminar of Nursing" organised by the International Council of Nursing. Apart from active participation, the Trained Nurses Association of India supported six delegates to the Seminar. The membership of the Association showed a steady upward trend during the year under review. Membership as it stood during 1960, are T.N.A.I. 5,122 ; H.V.L. 226 ; M.A. 112. The Student Nurses Association membership was 9,578.

Exchange of Privileges :

Under this International Scheme, the Trained Nurses Association of India, in association with other National Nurses Organisations; have effected 5 placements for members from abroad on an earn/learn basis ; and 13 of our members have likewise been placed in nursing positions abroad.

State Branches :

Most of the State Branches (12) have made progress. Two had published 'Newsletters'. Two prepared educational material and held refresher courses. Nine have held Annual General Body Meetings.

During the year, about 100 distinguished nurses from abroad visited the Head Office. They included the President of International Council of Nurses, Miss Agnes Ohlson of U.S.A. and Miss Ellen Broe and other members of the staff of Indian Council of Nursing.

Nursing Journal of India :

To celebrate the Golden Jubilee of the Journal, a special number was issued.

ALL INDIA MEDICAL LICENTIATES ASSOCIATION, CALCUTTA

The usual activities of the Association, such as meetings of the branches with clinical lectures on interesting subjects, Provincial Conferences and publication of monthly Journals were followed as usual.

During the year 1960, the Association took keen interest in giving publicity to the Family Planning Scheme of the Government of India and through branches and members of the Association, all co-operation was extended to the Government for the successful implementation of the scheme.

The West Bengal State Branch had its Annual Conference during the year under report at Purulia, where nearly 400 doctors from different parts of West Bengal attended. The various important subjects pertaining to the health problems of the people, problems of the medical profession were discussed and suitable resolutions were taken in the Conference.

Since the last decision of the Medical Council of India was taken to have separate register schedule-wise, the Association wanted to impress upon all concerned about the evil effect of such a registration. Under the initiation of the Health Department, the Government of India, the Council has revised the decision to have one common register.

Since the Association got the information about the move for re-introduction of school system of medical education in India, the Association had been moving all quarters both in the Central level as well as in the State level in an effort to desist the authorities concerned from taking such step as it was apprehended that re-introduction of the school system of medical education will perpetuate the caste system which would surely destroy the integrity in the medical fraternity. Several letters were published in the Indian Medical Journal of the Association in this connection. As it has always been the aim of the Association to encourage scientific discussion and research by our members, interesting cases were demonstrated in various branch meetings, which were from time to time published in the Indian Medical Journal during 1960.

During the year, under report meetings of almost all the branches were held as usual and problems of the profession and the people were discussed, particularly of Family Planning and the role of the professions for implementation of the same. Six new branches

were formed during 1960, such as Kulti-Burnpur (West Bengal), Bijnor (Uttar Pradesh), P.C.M.S. (Punjab), Kheri-Lakhimpur (Uttar Pradesh), Shamli (Uttar Pradesh) and Krishna District Branches (Andhra Pradesh). As usual, the Association tried through meetings, correspondences and publication to infuse the spirit of maintaining a high standard of medical ethics amongst the members of the medical profession.

THE ALL INDIA BLIND RELIEF SOCIETY, NEW DELHI

The All India Blind Relief Society runs the free Model Eye Hospital at Lajpat Nagar, New Delhi which is provided with a total of 80 in-door beds during the season. On an average 100 patients attended the out-door daily. During the year 1960, Dr. H. Mohan, Dr. D. C. Bhutani, Dr. Giridhar, Dr. Jadav and Dr. H. P. Gupta attended the Hospital. The total number of patients treated for eye diseases in the hospital during the year under review, was 36,489. Out of this, 1,045 eye operations were performed.

Mobile units were catering to the needs of the people. 23 patients were attended by the unit at Madanpur Khadar, 41 at Khizrabad, 618 at the Girls Higher Secondary School, Lajpat Nagar, 45 at Sarai Julena, 30 at Ramgarh and 51 at Okhla. As regards propaganda and health education, the Society delivered Magic Lantern Lectures on care of eye and prevention of blindness at different places.

THE ALL INDIA DENTAL ASSOCIATION, BOMBAY

The Fifteenth Annual Conference of the All India Dental Association was held at the Indian Medical Association Hall, Hyderabad from 3rd to 5th January, 1960. A large number of Dental Surgeons from all over the country participated in the conference. Interesting dental films were shown, table demonstrations were arranged and instructive papers on different aspects of Dentistry were read during the Scientific Session of the Conference.

The Association made considerable progress during the year 1960. Its strength stood at 1,093 at the end of the year. Two members of the Association were sent on internship to U.S.A. for advanced training in Dentistry. A Dental Health Poster competition was organised on all India basis and prizes were awarded to the winners of the competition. Several lectures were also delivered to the masses with a view to make them tooth-conscious.

Research on Dentistry was carried out under the scholarship awarded by M/s Hindustan Lever Ltd. (Toilet preparation Division). In addition to the monthly Journal, which is published by the Association, an Appointment Book, useful to Dentists, was published and copies were sent free of charge to all its members.

THE ALL INDIA WOMEN'S CONFERENCE, NEW DELHI

In the field of health, the activities of the All India Women's Conference relate to organisation of Milk Canteen, Mid-day Meals, Clinics for children, mobile Health Units and Dispensaries.

Seven of the branches of the organisation, *viz.*, Bombay, Kerala, Kodaikanal, Calcutta, Karnatak, Hyderabad and Delhi had mobile Medical Vans since a number of years in order to provide medical facilities to isolated villagers. Maternity and childwelfare work was

also undertaken by Bombay, Calcutta and Kerala branches. An eye clinic continued to function at Calcutta during the year 1960.

Milk powder, donated by various international organisations, was supplied to the under-nourished children and nursing mothers by almost all the constituent branches and sub-branches.

Family planning clinics were being run and propaganda made by the Andhra Pradesh, Berar, Surat, Indore, Karwar, Bangalore, South Madhya Pradesh, West Khandesh, North Satara and Allahabad branches.

Since the year 1958, 300 villages extension projects, formerly run by the Central Social Welfare Board were taken over by this conference branches and extensive health works were undertaken in the rural areas. Besides, these branches conducted Industrial classes, School, montessory classes as well as literary classes for adult women throughout the country.

THE BHARAT SEVAK SAMAJ, NEW DELHI

Improvement of the Health and Sanitation of the Society has been recognised as one of the important programmes of the Bharat Sevak Samaj and one of the objectives is to foster health by making people health-conscious through Health Education to change the knowledge, feelings and behaviours of people and concentrate on developing such health practices which lead to improvement in personal, family and environmental hygiene.

The Health programme is carried out through Bharat Sevak Samaj Branches which are active now in nearly all the districts, towns and in many cases in the blocks also by co-operating in the Government, Local bodies and other Social Service Organizations in their programmes of Health and Sanitation and securing enlightened participation of the people in the Planned National Health programme in the spirit of Co-operative Community Service.

To ensure Health and vitality of the people the Bharat Sevak Samaj has chalked out a programme during 1960 to improve sanitation in villages. This programme is practical and fundamental.

The items of the programme selected were:—

- (a) Personal, and Home Hygiene.
- (b) Improvement of water supply.
- (c) Disposal of excreta and urine.
- (d) Utilization of village rubbish by composting.
- (e) Management of rain water and the disposal of domestic waste water.
- (f) Insect control.
- (g) Spreading of the cult of Yoga exercises by opening large number of Yoga Training Centres.
- (h) Slum Service.

These programmes were implemented through:—

- (a) Health Education, in Homes and Schools in the villages by girls and boys campers in 1,500 work camps in the villages.

- (b) By Bharat Sevak Samaj Units in the villages.
- (c) By the Social service groups in the schools and colleges.
- (d) Cleanliness campaign throughout the year and special Health and Sanitation Weeks on the occasion of WHO Day and National Cleanlines Day on Gandhi Jayanti Day.
- (e) Popularisation of Yoga Exercises on a larger scale.
- (f) Establishment of Self-perpetuating Rural Sanitation Units consisting of volunteers to assist Panchayats, Community Projects, Administrative Units, Local and District Boards etc.

The Unit to consist of Sub-Groups is as follows:—

- (i) Group of Social Workers, preferably women for personal and home hygiene.
- (ii) Water Supply improvement groups.
- (iii) Disposal of night-soil and urine group, i.e., latrine and urinal constructions.
- (iv) Water tidiness group.
- (v) Group for composting (disposal of refuse etc.).
- (vi) Insect control group for eradicating mosquitoes, flies etc.
- (g) Family Planning Centres were started by some Pradeshes by the local Bharat Sevak Samaj.
- (h) Charitable Dispensaries are being run under the charge of qualified and Registered Medical Practitioners.
- (i) Occupational Therapy Institute worked satisfactorily in Delhi to provide training and general education for crippled and handicapped persons and also trying to deal with their physical defects.
- (j) CARE milk is being distributed to 100 Centres whence it is distributed to 1,500 Sub-Centres in various parts of India according to instructions from CARE.
- (k) Slum Service—The whole of this programme is also being carried out intensively in 50 Bharat Sevak Samaj Lok Karya Kshetras which have been opened in various parts of India each consisting of 100 villages.

The Health and Sanitation programmes as carried out in various Pradeshes by the Bharat Sevak Samaj during 1960 were as under:—

In Andhra Pradesh (Rayal Seema Region) really remarkable work was done particularly in Hindupur. The cleanliness drives of the Samaj had taken the form of interesting 'Keep the House Clean' competitions as also street cleaning campaigns. The clean house competition, organised specially in backward areas, aroused great public interest. Baby shows also helped to develop a sense of mother-craft among women of the areas where they were held.

In Andhra Pradesh (Telengana Region) the Bharat Sevak Samaj succeeded in coupling voluntary initiative with the effort of the local health and sanitation authorities as a result of which two whole urban colonies were cleaned. The cleanliness drives of the Samaj in this Pradesh were so widespread that they covered 5 towns and more than 400 villages during the year under review.

The activities of the Bharat Sevak Samaj in Assam, on the health front was the Boko Preventoria which started functioning with 6 children of leper families since the beginning of the year. Workers of the Bharat Sevak Samaj carried out a survey of leprosy cases in the area in co-operation with the official injector and found that 90 per cent of them belonged to tribal people.

The Assam Bharat Sevak Samaj had also taken up a slum clearance scheme at Gauhati and set up 4 centres in different slum areas of the town. Public as well as official co-operation for this scheme was encouraging.

In Bihar the health and sanitation activity of the Samaj was in progress since the very start of the Organisation. Many cleaning operations were carried out by the State Samaj through public mobilisation, one of which was purifying more than 7,000 wells with bleaching powder obtained from the Public Health Department and Municipal Corporations. About a thousand people were persuaded to be injected against cholera and a thousand children were vaccinated against smallpox. In the rural areas the public response was so encouraging that about a thousand village sanitation committees could be set up in the Pradesh. Propaganda of Yoga Exercises was also given due importance and a full time Yoga Physical Instructor had been engaged for Patna. In the course of the year about a thousand persons received training in Yoga Exercises because of the Samaj.

The Karnatak Bharat Sevak Samaj runs a Health Centre at Hubli with the aid of Voluntary Workers and Honorary Doctors, Sanitation and cleanliness drives were organised by the Madras Bharat Sevak Samaj in all districts during the year under report. The Pradesh Bharat Sevak Samaj had also launched an ambitious slum service scheme under which two slums in Madras city and two in the districts one at Coimbatore and the other at Tiruchirapalli, were taken up for slum service. At these slum centres, the slum dwellers were given instruction by voluntary workers in personal and community health and hygiene and were also given medical facilities. Cinema shows and cultural activities were also organised in these localities.

In Mysore the Gram Pracharaks and Lok Karya Workers of the Samaj had taken up intensive health and sanitation work in a number of villages. In addition to the usual activities for this purpose, which they carried out with regularity, the Bharat Sevak Samaj Workers helped the National Malaria Eradication Department in spraying houses with DDT and the Health Department in vaccinating children as well as controlling epidemics by prompt information about cases.

The Pradesh Bharat Sevak Samaj also took up a slum improvement programme in Bangalore, Mysore and Shimoga. The activities carried on under this head generally include free milk distribution, house visits and environmental service, vaccination drives, medical dispensaries and play centres. The Bharat Sevak Samaj contacted several schools in the civil area of Bangalore as a result of which heads of some of these institutions have promised to adopt these slums. The Baldwin's Girls School had come forward to distribute sweets, soaps, combs and old clothing to three hundred children in these slums. Many social service bodies also enlisted themselves in the Slum Service Scheme of the Bharat Sevak Samaj.

A notable achievement of the Nagpur Pradesh Bharat Sevak Samaj was the construction of a T.B. After-Care-cum-Rehabilitation Centre, the first of its kind in Maharashtra State, at the cost of about rupees seventy thousand. Here provision had been made for the employment of twenty-five T.B. after-care-patients in useful vocations. Cleanliness drives were arranged throughout the Pradesh from time to time and the health and sanitation committee worked in active co-operation with the Health Department.

In the Gujarat State, the Saurashtra Bharat Sevak Samaj has been conducting a successful Family Planning campaign at Rajkot, Junagadh, Bhuj and other places. Workers of the Samaj contacted about ten thousand people and Doctors advised more than four thousand of them on family planning. Baby shows were also held at different places. More than two lakhs children and mothers received free milk from the Bharat Sevak Samaj during the year. More than 5,500 post-natal visits were made and about a thousand home deliveries were arranged. The number of children cared for by Bharat Sevak Samaj during the year came out to be 24,000.

The Bombay Bharat Sevak Samaj arranged pre-medical aid at various centres and about 4,000 children were inoculated in the city with the help of the Municipal Authorities.

In Orissa, workers of the Bharat Sevak Samaj administered BCG. vaccine to more than 1,500 persons. The World Health Day and the Swachha Bharat Day was observed by all Bharat Sevak Samaj village units throughout the Pradesh. On this occasion tanks, wells, village roads and slums were cleaned.

The Punjab Bharat Sevak Samaj observed a sanitation week in a number of towns in the State during the period 26th September to 2nd October 1960 in an organised manner. In the big cities the workers went to labour colonies in the industrial areas to seek public participation in the cleanliness drive. In three villages of Ludhiana District, the local Bharat Sevak Samaj workers ensured that every street had one dust bin and every house a passage for dirty water. An eye relief camp was held at village Hadiya (Sangrur) under the auspices of Bharat Sevak Samaj, where 125 successful cataract operations were performed. Patients were given free medical aid and food for one week. A demonstration of Yoga Exercises was held in the presence of Shri Bhim Sen Sachar, Governor of Andhra Pradesh, during his visit to Chandigarh. Efforts for children's health were also being made through a daily supply of free milk to about 600 children in the Pradesh.

In West Bengal, propaganda for the removal of water hyacinth has been done by the Bharat Sevak Samaj workers in various districts of the Pradesh during cleanliness drives. In Calcutta as well as in 24-Parganas the Samaj made the necessary arrangements for vaccination of the people during epidemics. The Pradesh Bharat Sevak Samaj also conducted some Yoga Health Centres in the Capital as well as in the Districts.

In Delhi, there were 4 dispensaries in 1960 and all of them had been showing very good progress. About 90,000 patients were treated. The doctors visit Katras and Basties, occasionally and explain "do's and don'ts" to the people for maintaining good health.

During visits of social workers in the Katras quite often they detected cases of acute, chronic illness and they referred them to the doctors for treatment. Such patients were generally old people. They neglected themselves and their children also behaved in the same manner. These people deserve sympathy and assistance and the social workers perform their duties by extending them the necessary medical aid.

Thus it may be seen that the Bharat Sevak Samaj undertook and carried out different activities to promote health and sanitation on a public scale. Generally speaking the cleanliness drive that the Bharat Sevak Samaj launches every year for a week on Gandhi Jayanti Day is a combination of all the activities which seeks voluntary initiative and public co-operation in a spread of health and sanitation in rural and urban areas of country.

In view of these efforts of the Samaj the Ministry of Community Development and Co-operation agreed to issue instructions to the Agriculture Extension Officers and Medical Officers-in-charge of Primary Health Centres to render assistance to Bharat Sevak Samaj workers for environmental sanitation. Specific instructions would also be issued to these officials to help the Samaj for the introduction of compost pitting and the slab and seal system of cheap latrines in the rural areas of the country.

THE GANDHI MEMORIAL LEPROSY FOUNDATION, WARDHA

The Gandhi Memorial Leprosy Foundation completes ten years of its existence in the year 1960. The decade has kept the Foundation uniformly busy both in implementing its own plan of work and in visualising new frontiers which make it easier to eradicate leprosy from the country in a foreseeable future. Starting with its own novel experiment in some selected areas of the country, it has now occupied a recognised place in the leprosy control movement of the country.

The two important events in the growth of the institution during the year were the Conference of Workers of the Foundation and the decision of the Gandhi Samarak Nidhi to make the Foundation an autonomous entity.

The Leprosy Control Units constituting the chief activity of the Foundation continued their useful work during the year under report. The total population in the 9 Control Units of the Foundation (distributed in 8 States) was 2,06,000 by end of 1960, out of which 1,70,000 were examined in annual surveys and 354 leprosy cases (13 L and 341 N) were detected. The total detected cases by the end of 1960 were 5,927 (646 L and 5,281 N). Out of these detected cases, 5,143 (622 L and 4,521 N) were registered for treatment. Apart from these cases from the control area, 21,468 cases (5,116 L and 16,353 N) from outside the control area were also taking treatment.

The first Leprosy Referral Centre of the Foundation, which is one of the very few such centres in the country, started working from the 15th August, 1960. It will cater the needs of the medical personel in private and general dispensaries who would like to consult for their difficult leprosy cases. The Centre will also specialise in physiotherapy.

By the end of 1960, there were 108 (33 L and 75 N) cases under treatment in the weekly clinic run at the Referral Centre. For physiotherapy treatment, 42 patients were registered and were given wax bath followed by usual oil massage and exercises.

The Training Centre at Chilakalapalli continued to receive heavy demands for admissions. The reason for this was to be found in the fact that many States have no Training Centres for the men they need. The other reason is that many private organisations are realising the utility of S.E.T. Work.

The Foundation's training centre has so far trained 153 persons, the last batch of 33 para-medical workers finished training in July, 1960. A fresh batch of 25 candidates was under training at the close of the year.

Also, the first batch of seven Medical Officers, deputed by various State Governments were trained under the Government of India scheme. These Medical Officers are to conduct para-medical workers' training centres in their respective States during the Third Five Year Plan programme.

The Foundation continued to contribute its help in the conduct of Kerala Government's Training Centre at Maraikulam.

Two para-medical workers of the Foundation were deputed for training in physiotherapy at Vellore, Madras State.

The workers of the Foundation came together for the second time in January, 1960 at Wardha and discussed not only the technical matters relating to leprosy control but also the organisational aspects of the Foundation from the view-points of fraternity and unity. The Conference was addressed by the Chairman and Vice-Chairman respectively.

The Central Office published during the year under report seven booklets and a folder. Of these, 4 booklets deal with the educational aspect of leprosy control. The folder and three booklets introduce the Foundation to the reader. At present, only English and Marathi versions of all the publications were made. Other versions will be attempted during the next year. The pamphlets so far published are being distributed to our units and selected persons all over India. A few copies were despatched abroad.

The following writings and papers of the Secretary were prepared and/or published during the year under report.

1. Leprosy Work in India —Review (for Mudaliar Committee);
2. Everyone's Duty in Leprosy Control (feature article for Times of India supplement);
3. Draft Third Leprosy Plan (for Leprosy Advisory Committee of the Government of India);
4. Third Leprosy Plan (for general circulation);
5. A note on Leprosy Work for the Third Plan (for members of Health Panel of the Planning Commission);
6. Rehabilitation—Some suggestions; and
7. Leprosy Work in Wardha District (plan for Lions Club, Wardha).

The Secretary was actively associated with W.H.O. Regional Conference held at Vellore in third week of December, 1960.

The Secretary prepared a scheme for the study of mass prophylactic treatment with D.D.S. and submitted it to the Indian Council of Medical Research. Prophylactic D.D.S. treatment will be given to all healthy population below 25 years of age for a certain period. Intensive annual survey for case-detection and treatment of all detected cases with oral D.D.S. will also be carried out. The findings of this experiment, if successful, may considerably influence the pattern of future national leprosy control campaign.

Some of the control units of the Foundation have received grants-in-aid for specific purposes from the State or Central Governments.

Three more private organisations affiliated to the Foundation under its scheme of Co-ordination of anti-leprosy work in the country, bringing the total of affiliated institutions to 33 at the end of 1960.

The Foundation continued its attempt to persuade private organisations to start control work in their areas on S.E.T. lines. In pursuance of this, three workers from the Foundation visited 23 organisations all of which have agreed to start control work on those lines. The Foundation will help them in getting grants from the Central Government.

THE INDIAN MEDICAL ASSOCIATION, DELHI

The Association continued to work that was initiated earlier and some new actions were initiated during the year 1960. The Indian Medical Association look review of the new developments and acted having regard to the needs of the country, the needs of the profession and in the light of the Indian Medical Association Policy. During the year under review, the Association had 13 State Branches, 3 Territorial Branches and 601 local branches including 3 District Branches. The membership of the Association stood at 21,725.

The Indian Medical Association continued to be represented on the following organisations and worked in co-operation with them:—

1. Central Council of Health (by invitation for each meeting);
2. The Employees' State Insurance Corporation and the Medical Benefit Council of Employees' State Insurance Corporation;
3. The Drug Technical Advisory Board and the Drug Conference;
4. The Telephone Advisory Committee (in each State);
5. The National Building Organisation;
6. The National Family Planning Board;
7. The Health Survey and Planning Committee of the Planning Commission;
8. The Nursing Council of India; and
9. On special and *Ad-hoc* Committees set-up by the Union or State Governments from time to time.

The Association and its Branches co-operated in the celebration of the World Health Day on the 7th April, 1960, as usual, Indian Medical Association, its branches and members had been extending co-operation in the National Malaria Eradication Programme, Anti-leprosy Campaign, Smallpox Eradication Programme etc.

Internship Programme :

The Association invited applications for internship and residency training in Hospitals in the United States and Canada for the term beginning 1st July, 1960. Forty-seven candidates were interviewed for selection by the Central Selection Committee at Delhi. The names of those selected were sent to different hospitals in U.S.A. and Canada, but hospitals in America replied back that candidates must pass the "American medical qualification examination" conducted in India and other foreign countries by the Educational Council for Foreign Medical Graduates. The Association was able to place 19 candidates in hospitals in Canada. Only two doctors, who passed the E.C.F.M.G. examination in April, 1960, secured residency positions in U.S. hospitals. Because of imposition of this examination, no more candidates were sent to hospitals in America in the year 1960.

The Government of India promised a grant of Rs. 2.50 lakhs or 25 per cent, whichever is less, towards the cost of the construction of Indian Medical Association National Headquarters building. The project is going to cost the Association approximately 10-11 lakhs of rupees including the construction, sanitary installations, electric fittings and furnishing etc.

THE KASTURBA GANDHI NATIONAL MEMORIAL TRUST, INDORE (MADHYA PRADESH)

The Kasturba Gandhi National Memorial Trust was founded in the year 1944 in the memory of Smt. Kasturba Gandhi.

The object of the Trust is to conduct and promote such activities as would be conducive to the general welfare of poor and needy women and children in the rural areas in India.

During the year under report, besides its other activities in the field of education and training, it conducted 8 hospitals, 48 Arogya Centres and 63 composite centres (where medical activities formed the part of the Centres) in various parts of India.

The hospitals included one leprosy home also. The eight hospitals were situated at the following places:—

1. Seetanagram, East Godawari District, Andhra Pradesh.
2. Ras, Kaira District, Gujarat State.
3. Kasturbagram, District Indore, Madhya Pradesh.
4. Belsonda, Raipur District, Madhya Pradesh.
5. Sargaon, Raipur District, Madhya Pradesh.
6. Omandur, District Tiruchirapalli, Madras State.
7. Singanallur, Coimbatore District, Madras State.
8. Mazvanthangal (Leprosy Home) South Arcot District, Madras State.

The Trust also aided Kasturba Memorial Maternity Hospital, Gurza, Krishna District in Andhra Pradesh to the extent of 75 per cent of its actual expenditure.

These Centres and hospitals distributed medicines to the patients, rendered first aid treatment in common ailments, attended casualties, undertook tours of surrounding villages for propagating ideas about preventive aspect of work such as general health and sanitation, helped serious cases to be admitted in nearby big hospitals, examined ante-natal and post-natal cases and conducted deliveries at homes and at centres (where such facilities were available). Minor type of general and gynaecological operations were also undertaken at these hospitals.

The Statewise of the work done in these hospitals is as follows:—

1. Number of patients treated	3,26,973
2. Examination of ante-natal cases	12,839
3. Examination of post-natal cases	10,165
4. In-door deliveries	1,659
5. Domiciliary deliveries	3,161
6. Minor operations	361

The Leprosy Home known as Kasturba Kustha Nivaran Nilayam was started in the year 1946 with an out-patient ward and later facilities were extended to in-patients also. As the healing work proceeded, the idea took shape of control in the area by conducting surveys, detecting cases in early stages of the disease, following up cases to their homes, studying their contacts and above all reaching out DDS to every patient or at least as near as their villages. A very important item of treatment work was the "Village Treatment Scheme" under this scheme D.D.S. was given to all cases of leprosy at their own doors by Kustha Nivaran Nilayam Sevikas under the supervision of Medical Officer. The regularity of attendance under this scheme was markedly high. Practically all cases, except a very few who occasionally go away from the villages, were treated. The following is the statistics of the work done at the Kasturba Kushta Navaran Nilayam :—

	Men	Women.	Total
1. New Admissions	15	12	27
2. Number of discharges	9	16	25
3. No. of cases at the end of year	20	22	42
4. Daily average out-patient . . . . .	..	..	143

Under the intensive Village Treatment Scheme 24 villages were served and 1,193 cases had come from these villages for treatment, of which 1,074 cases came regularly for treatment. New admissions during the year 1960 was of the order of 198 cases.

The Trust had also an Advisory Medical Board under the Chairmanship of Dr. Jivraj N. Mehta to advise the Trust and its Chairman in regard to its medical policies and other specific schemes that came up for consideration before the Board of Trustees from time to time.

The Trust is a recognised agency for imparting training in Auxiliary Nurse and Midwives courses which is of two years. The Examination Committee of the Board whose Chairman is Dr. Chaman Lal Mehta.

During the year 26 women candidates were trained as Auxiliary Nurse and Midwives under the auspices of the Trust for services in the villages.

THE ROCKEFELLER FOUNDATION, NEW DELHI

The Rockefeller Foundation's co-operative work in India began in 1920 in the Madras Presidency and at first was confined to the treatment and prevention of hookworm disease. Though work on this disease was subsequently terminated, representatives of the Foundation have continued to develop health and medical programmes in co-operation with the Central and State Governments. These activities have included training of public health workers by means of fellowships, special research in malaria, assistance to demonstration health organizations among rural and semi-rural populations, studies in nutrition problems, and aid to public health education.

To promote public health training, the Foundation co-operated in the establishment of the All-India Institute of Hygiene and Public Health in Calcutta, and during the six years 1939-45, the Director of the Institute was a member of the staff of the Rockefeller Foundation. This Institute with a revised curriculum, is now playing an important role in the training of public health workers in India.

Listed below are the various appropriations, grants-in-aid awarded by the Foundation to the various Institutions in India during the year covered by this report :—

Institution	Purpose	Amount in U.S. dollars
1	2	3
<i>Appropriations :</i>		
All India Institute of Medical Sciences, New Delhi.	Building and equipping a teaching Hospital.	500,000
All India Institute of Medical Sciences, New Delhi.	Scholarship programme for selected post-graduate students.	30,500
Indian Cancer Research Centre, Bombay.	Biophysics Research . . .	26,000
Indian Institute of Science, Bangalore.	Research in Department of Bio-chemistry.	28,500
<i>Grants-in-aid :</i>		
Andhra Medical College, Visakhapatnam.	Research in Physiology in the Department of Physiology.	10,000

1	2	3
Christian Medical College Hospital, Vellore.	Surgical and operating room equipment for the Department of Neurology and Neuro surgery.	10,000
Indian Cancer Research Centre, Bombay .	Scientific equipments and supplies.	6,000
M. P. Shah Medical College, Jamnagar .	Equipment for research in the Department of Pharmacology.	8,500
University of Lucknow, Lucknow . .	Support of residencey programme at K. G. Medical College, Lucknow.	8,500
Vallabhbhai Patel Chest Institute, Delhi .	Research in Bio-chemistry Department.	8,500
Indian Institute of Science, Bangalore .	Support for research in Bio-chemistry.	16,200

The Foundation's fellowship appointments are integrated with its general programme and are considered one of the most important features of its activities. In most instances, a candidate is eligible only after the completion of a post-graduate degree and several years of experience in a particular speciality. The candidate generally holds an appointment in a university, medical college, research institute or a government department. These fellowships are almost never given directly to an individual on direct application and are usually awarded through the agency with which the candidate is associated. In recommending a prospective fellow to officers of the Foundation, the employing agency undertakes to grant him the necessary leave of absence and provide him a post in which he can make effective use of his fellowship experience on return to his country. A personal interview by a representative of the Foundation, usually at the candidate's place of work, is required and final selection is made by officers in New York from among applications submitted from India and other countries in which the Foundation has an active programme.

The fellowships and travel grants aid given by the Foundation in the fields of public health and medical education during the year 1960 are shown in Table 76.

THE MISSION TO LEPERS, PURULIA (WEST BENGAL)

The Mission to Lepers was founded in 1874 as a result of Mr. Wellesley C. Bailey, who had come to India to join the police force, having his interest in the plight of the leprosy patient aroused on seeing a pathetic group of patients at Ambala. From such a small beginning it has grown until today it works in over 20 different countries and in co-operation with many branches of the Protestant Church. Its headquarters are in London and it has auxiliaries in the Commonwealth and other countries.

Its largest field of service is India, where it owns or aids over 50 centres where anti-leprosy work is done. Latest statistics show

that in these centres some 70,000 patients are treated each year. The total cost of maintaining the work annually is in the neighbourhood of Rs. 34 lakhs. About 25 per cent of this money is received from Government grants. The rest is received from other sources through the Mission to Lepers.

While the Mission owns and aids work that is done in institutions, it is also very actively engaged in rural village out-patient clinic work. Gradually, as staff resources are increased, the emphasis is being placed more and more on out-patient work. In this the Mission is not seeking to neglect that which is good in its institutions, but rather trying to add to its total contribution to the anti-leprosy campaign in India.

The Mission is also acutely aware of the leprosy problem in towns and cities, and to that end it lends its assistance to such enterprises as the Premananda Leprosy Dispensary in Calcutta.

Realising that the shortage of suitably trained personnel is the crux of the anti-leprosy campaign, the Mission also engages in training people who are called to this work. During this past year it has been possible to arrange, in co-operation with the Hind Kusht Nivaran Sangh, for a six months' course of training for physio-therapy technicians. Similar training facilities are also offered at the Schieffelin Leprosy Research Sanatorium at Karigiri near to Vellore. But more volunteers are still required.

Results of treatment continue to give increasing cause of encouragement, and members of the Mission staff are actively engaged in exploring new avenues of treatment that might lead to more rapid and stimulating results.

At Karigiri research into various aspects of the total leprosy problem is being engaged in. During 1960 the aspects under investigation included ulcers, etiology of ulcerations, treatment of ulcers, prevention of ulcers, ulnar neuritis, reaction in leprosy, lymph nodes in leprosy, bone changes in leprosy, and nasal deformity. At several centres programmes of reconstructive surgery were undertaken and an increasing number of patients were receiving the benefit of such attention.

The surgical procedures for the repair of the hands and feet were well developed and to a certain extent they are now accepted routine procedure in reconstructive surgery in leprosy. Surgical repair of the face is still an open field of investigation and both surgeons and the patients are greatly interested in the development of this branch of surgery. One is often tempted to think that the surgical intervention in deformed hands and feet is more important than the restoration of the "looks" of the person: but one fails to realise that for the proper rehabilitation of a patient in society "looks" matter as much as "usefulness". So pulling up a flat nose, giving a pair of new eyebrows, and face lift are as important as restoring the opponens action of the thumb and lumbrical action of the fingers. The correction of facial palsy is not anything peculiar to leprosy patients only. Restoring the function of the eyelids not only makes a difference to the look of the person but also protects the eye, a vital organ in the body.

The foot drop correction by the new method was satisfactory. This has reduced the length of immobilisation of the foot from six weeks to twenty-four days. The bone is also not interfered with as in the previous operation, and this seems to be a distinct advantage in relation to leprosy feet.

Reconstructive surgery is undoubtedly giving amazing and spectacular results, and the Mission is glad to be able to give a lead and take part in this aspect of the work. Its aim is to have a number of centres strategically placed up and down in India where such facilities can be offered. To this end, improved hospital and operation theatre facilities are being provided at Chevayur in Kerala.

But sight is not lost of the fact that other aspects of the total problem still retain their significance and importance, and so investigation experiments and other research of the nature of the things mentioned above as well as other minor research projects, are continually being undertaken.

At its hospitals and homes commendable occupational therapy projects for patients were arranged. These undoubtedly play a part in the recovery of the patients. One has only to think of the weaving of cloth at such places as Champa, Chandkhuri and Shantipur in Madhya Pradesh, of the toys that are made at Nasik in Maharashtra, or the rope making at Bankura in West Bengal, of the silver ware made by patients at Chevayur in Kerala, or of the pottery produced by patients at Purulia, West Bengal to see evidence of this.

The Mission also realises the importance of the child in the leprosy problem, and at such centres as Vadathorasalur in Madras, Champa in Madhya Pradesh, Purulia in West Bengal, and the Wellesley Bailey Children's Sanatorium at Zamurradganj near Faizabad in Uttar Pradesh, makes provision on a language area basis for children suffering from leprosy. Adequate attention is given at these centres to the education of the child as well as to his medical treatment, so that on discharge he can take his normal place in his village school.

The number of healthy children of leprosy patients under the care of the Mission tends to decrease. This is because more and more it is becoming possible to arrange for such children to continue to live at home with relations, or to provide for them in general orphanages. In this way they are helped to escape from any stigma that still attaches to anyone connected with the leprosy patient.

Co-operation and encouragement were received from both Central and State Governments, and it is hoped that these sources will continue to be increased their assistance of the work in hand.

CHAPTER XVI

WORLD HEALTH ORGANISATION AND UNICEF

1. World Health Organisation.
2. UNICEF.
3. International Conferences on health subjects.

WORLD HEALTH ORGANISATION

India has been a member of the W.H.O. since its inception in 1948 and has taken active interest in its various activities. During the year 1960 several Indian Public Health Workers were appointed as members of W.H.O. Expert Advisory Panel on periodontal Disease, Organisation of medical care, biological standarization, occupational health, venereal infections and treponematoses.

The W.H.O. provided assistance by way of expert technical advisers, field workers and also a limited amount of equipment for project connected with Tuberculosis, Virus Diseases, Public Health Administration, Vital and Health Statistics, Nursing, Health Education, Maternal and Child Health, Mental Health, Environmental Health, Education and Training and Malaria. They also granted fellowships to selected candidates for training abroad in various subjects. India also provided training facilities to certain foreigners who were granted fellowships by the W.H.O. in different subjects.

In the implementation of programme in India, the assistance given by the W.H.O. during the year under review amounted to U.S. \$ 1,209,774. The Government of India's contribution to the W.H.O. during the year amounted to U.S. \$382,210 (Rs. 18,20,047), besides a contribution of Rs. 1,00,000 to that Organisation towards the Malaria Eradication Special Account.

The names of the project with their respective number of International Experts provided by the W.H.O. during 1960 are detailed in the subjoined table:—

Name of the project	No. of Internatio- nal Experts to be pro- vided by W. H. O. during 1960
1	2
1. T.B. Control and Training Centre, Hyderabad (India 43-TA)	1
2. T.B. Chemotherapy Centre, Madras (India 53-TA)	8
3. National T.B. Programme (India 103-TA)	14
4. Trachoma Control Pilot Project (India 101-Reg.)	1
5. P.H. Programme, Rajasthan (India 106-TA)	2
6. P.H. Programme, Punjab (India 107-Reg.)	4
7. P.H. Programme, Orissa (India 133-Reg.)	1
8. P. H. Programme, Bihar (India-145-Reg.)	2

1	2
9. P.H. Programme, Uttar Pradesh (India 146-Reg.)	2
10. P.H. Programme, Kerala (India 147-Reg.)	3
11. P.H. Programme, Mysore (India 147-Reg.)	2
12. P.H. Programme, Madhya Pradesh (India 149-Reg.)	4
13. P.H. Programme, Bombay (India 150-TA)	2
14. P. H. Programme, Andhra Pradesh (India 151-Reg.)	4
15. P.H. Programme, Assam (India 152-Reg.). . . .	4
16. Medical Stores Management, West Bengal (India 171-Reg.) . .	1
17. Vital and Health Statistics, Nagpur (India 90-TA)	1
18. Vital and Health Statistics, West Bengal (India 131-TA) . . .	1
19. Nursing Education (P.H. Integration) (India 99-TA)	3
20. Nursing Advisers to States (Madras, Madhya Pradesh and Punjab) (India 110-TA).	2
21. Curriculum Guide for Nursing and Midwifery Training (India 155-Reg.)	1
22. Health Education, Ministry of Health in cooperation with Ministry of Education (India 85-TA).	1
23. Health Education, States of Bombay, Uttar Pradesh and Bihar (India 108-TA).	3
24. All India Institute of Hygiene and Public Health, Calcutta (India 118-TA).	1
25. Paediatric Education (India 114-Reg.)	3
26. Up-graded Department of Paediatrics, Madras Medical College (India 134-Reg.).	1
27. Up-graded Departments of Paediatrics of 3 Medical Colleges, Bombay (India 135 Reg.).	3
28. Paediatrics Department, Osmania Medical College, Hyderabad (India 142-Reg.).	1
29. All India Institute of Mental Health, Bangalore (India 71-Reg.) . .	2
30. P.H. Engineering, University of Madras (India 77-TA)	1
31. Environmental Sanitation, Uttar Pradesh (India 85-TA)	2
32. Environmental Sanitation, Kerala (India 95-TA)	2
33. Training in Preventive and Social Medicine (India 91-TA)	2
34. Indian Council of Medical Research (India 121-Reg.)	1
35. Malaria Eradication Programme (India 153-MSSA)	8

UNICEF

The United Nations Children's Fund (UNICEF) an international co-operative on behalf of children is a part of the United Nations and was established in December, 1946. The UNICEF is financed by contributions from Government, Voluntary agencies, individuals and other sources. The fund offers assistance mainly in the form of equipments and supplies to health programmes for expectant and nursing mothers and children. It makes allocations of funds against requests for specific projects on the basis of negotiations between representatives of the Government of India, the State Government concerned and the UNICEF. India continued to be a member of the UNICEF Executive Board from 1951 to 1960.

The UNICEF Executive Board allocated \$ 1,576,200 during the year 1960 for the following programmes:—

	Amount in dollars
1. Basic Maternity and Child Welfare, Paediatric Teaching at the Agra Medical College, Agra.	25,000
2. Continued Assistance to BCG. Anti-Tuberculosis Vaccination Campaign .	222,000
3. Continued Assistance to Trachoma Control Pilot Project . . .	32,200
4. Production of Freeze-Dried Smallpox Vaccine	47,000
5. Vaccine Production (Whooping Cough, Tetanus, Diphtheria) . . .	30,000
6. Milk Conservation, Calcutta	600,000
7. Milk Conservation, Andhra Pradesh	500,000
8. Production of Edible peanut (Groundnut Flour)	120,000
TOTAL . . .	1,576,200

The Government of India contributed to UNICEF Rs. 30,00,000 in the year 1960 (including Rs. 14 lakhs from the Ministry of Food and Agriculture) besides a grant of Rs. 5,00,000 for the maintenance of the UNICEF local office. A budget provision of Rs. 16 lakhs was made by the Ministry of Health and of Rs. 7 lakhs by the Ministry of Food and Agriculture for contribution to the fund during the year 1961-62. In addition a provision of Rs. 5 lakhs has been made for contribution to the UNICEF local office.

INTERNATIONAL CONFERENCES ON HEALTH SUBJECTS

During 1960, several international conferences were held in which the Indian delegations participated. A brief description of the conferences is set out below:—

1. The Thirteenth World Health Assembly held in Geneva from the 3rd to the 20th May, 1960. A delegation of four members headed by Shri D. P. Karmarkar, Union Minister of Health attended the Assembly on behalf of the Government of India. The other delegates

were Dr. A. L. Mudaliar, Vice-Chancellor, University of Madras, Lt. Col. V. Srinivasan, Director General of Health Services, New Delhi, and Dr. C. G. Pandit, Director, Indian Council of Medical Research, New Delhi.

2. During the period 22nd to 29th August, 1960 ; the Thirteenth Session of W.H.O. Regional Committee for South East Asia was held at Bandung, Indonesia. The Indian delegation consisted of (1) Lt. Col. V. Srinivasan, Director General of Health Services, New Delhi and (2) Dr. D. Choudhury, Assistant Director General of Health Services, New Delhi.

3. Dr. P. V. Benjamin, Adviser in T.B. was deputed to attend the W.H.O. T. B. Seminar in Sydney, Australia from 7th May to 17th June, 1960 to assist the W.H.O. in the preparation and conduct of Seminar, including visits to Japan, Philippines and Dr. N. L. Bordia, Director, National Tuberculosis Institute, Bangalore was deputed to attend meeting of the Eastern Regional Committee of the International Union against T. B. from 18th to 22nd May, 1960 and W.H.O. Seminar on T. B. from 23rd May, 1960 to 3rd June 1960 in Sydney.

4. To attend the Sixth International Congress on the diseases of the Chest held in Vienna from 27th August to 1st September, 1960, the Government of India deputed Dr. S. K. Sen of Nursing Home, New Delhi.

5. The Fourth Indo-Burma Border Anti-Malaria co-ordination conference was held at Mandalay (Burma) from 5th to 8th December, 1960. The Indian delegation consisted of the following officers:—(1) Dr. A. P. Ray, Director, National Malaria Eradication Programme, (2) Dr. B. L. Choudhury, Director of Health Services, Assam, Shillong, (3) Dr. W. C. Malhotra, Director of Medical and Health Services, Manipur, Imphal, and (4) Lt. Col. J. N. Ghosh, Director of Health Services, NEFA, Shillong.

STATISTICAL APPENDICES

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Table 1

Census or estimated population in the various countries of the world

Countries	Dates on which the last census was taken	Census of estimated population			Area in square km.	Density per square km.
		Males	Females	Total		
1	2	3	4	5	6	7
1. Netherlands	31-5-60	5,710,540	5,757,505	11,468,045	32,451	353
2. Federal Republic of Germany	25-9-56	23,906,400	27,068,100	50,974,500	247,971	206
3. South Africa	6-9-60	..	..	15,841,128	223,409	13
4. Japan	1-10-60	..	..	93,418,501	369,662	253
5. Ethiopia	1-7-60	..	..	20,000,000	1,184,320	17
6. Ceylon	20-3-53	4,268,730	3,829,165	8,097,895	65,607	123
7. India	1-3-51	183,261,664	173,480,005	356,741,669	3,281,144	109
8. Hungary	1-1-60	4,817,800	5,158,700	9,976 500	93,030	107
9. France	10-5-54	20,663,600	22,236,400	42,900,000	551,208	78
10. U.A.R.	20-9-60	..	..	26,080,000	1,000,000	26
11. China (Mainland)	30-6-53	297,553,518	276,652,422	582,603,417	9,561,000	61
12. Burma	1-7-60	..	..	20,662,000	678,033	31
13. U.S.A.	1-4-60	..	..	179,932,895	9,363,387	19
14. Canada	1-6-56	8,151,879	7,928,912	16,080,791	9,975,800	2
15. Pakistan	25-2-51	40,209,169	35,632,996	75,842,165	943,700	80
16. Brazil	1-7-50	25,885,001	26,059,396	51,976,357	8,533,844	6
17. Australia	30-6-54	4,546,118	4,440,412	8,986,530	7,703,867	1
18. U.S.S.R.	15-1-59	94,050,303	114,776,347	208,826,650	22,402,200	9

.. Information not available.

Table 2

Statement showing the mid-year estimated population (in '000) in the various States of India during the year 1960

States	Mid-year estimated population (in '000)					Rural popula- tion as percent- age to total population
	1	2	3	4	5	
1. Andhra Pradesh	25,616	5,015	30,631	83.63	
2. Assam	11,055	539	11,594	95.35	
3. Bihar	36,131	1,887	38,018	95.04	
4. Gujarat	14,743	5,516	20,259	72.77	
5. Jammu and Kashmir	
6. Kerala	15,057	1,601	16,658	90.39	
7. Madhya Pradesh	26,568	3,801	30,369	87.48	
8. Madras	24,120	8,019	32,139	75.05	
9. Maharashtra	27,746	11,208	38,954	71.23	
10. Mysore	12,055	4,955	17,010	70.87	
11. Orissa	15,073	689	15,762	95.63	
12. Punjab	16,179	3,798	19,977	80.99	
13. Rajasthan	2,931	2,931	..	
14. Uttar Pradesh	62,916	9,937	72,853	86.36	
15. West Bengal	26,958	7,018	33,976	79.34	

16. Andaman and Nicobar Islands	.	.	.	.	.	.	.	.	45	16	61	73.77
17. Delhi	.	.	.	.	.	.	.	.	293	2,292	2,585	11.33
18. Himachal Pradesh	.	.	.	.	.	.	.	.	1,275	54	1,329	95.94
19. Manipur	.	.	.	.	.	.	.	.	..	..	..	..
20. Pondicherry.	.	.	.	.	.	.	.	.	291	75	366	79.51
21. Tripura	.	.	.	.	.	.	.	.	..	..	..	..
									316,121	69,351	385,472	82.01
								INDIA				

.. Information not available.

Table 3

Birth, Death and Infant Death Rates by Rural and Urban areas during the years 1957-60

States/Union Territories		Rural						Urban						Total			
		1957	1958	1959	1960	1957	1958	1959	1960	1957	1958	1959	1960	1957	1958	1959	1960
1	2	3	4	5	6	7	8	9	10	11	12	13	14				
1. Andhra Pradesh .	B.R.	18.3	17.3	17.1	16.1	24.0	26.3	21.7	27.4	19.8	19.3	17.9	17.9				
	D.R.	10.3	10.1	7.9	7.4	10.8	11.2	8.7	10.3	10.8	10.7	8.0	7.9				
	I.D.R.	95.5	88.0	86.7	83.5	80.1	77.5	70.5	67.4	92.7	85.9	83.1	79.5				
2. Delhi .	B.R.	26.7	24.3	21.5	28.3	33.6	29.8	32.5	29.5	32.4	28.8	30.5	29.3				
	D.R.	8.4	9.5	6.6	10.7	9.2	8.6	9.1	9.6	9.0	8.8	8.6	9.7				
	I.D.R.	102.1	119.2	95.3	120.4	71.3	79.4	71.0	81.7	75.7	85.3	74.0	86.0				
3. Gujarat .	B.R.	24.8	25.6	32.1	25.8	27.6	29.4	32.1	30.6	25.6	26.6	32.1	27.1				
	D.R.	11.3	13.8	12.2	10.8	12.4	13.7	12.0	12.2	11.6	13.7	12.2	11.2				
	I.D.R.	86.4	99.6	77.8	80.0	108.6	111.8	88.5	84.5	89.2	103.2	80.7	81.4				
4. Madhya Pradesh .	B.R.	13.4	16.1	17.6	17.4	16.7	16.5	22.2	23.0	13.8	16.1	18.1	18.1				
	D.R.	8.1	10.8	8.6	8.5	7.4	10.2	9.9	9.5	8.0	10.7	8.8	8.6				
	I.D.R.	145.1	149.2	101.0	95.9	96.5	128.5	88.7	77.5	138.0	146.7	99.2	93.0				
5. Madras .	B.R.	25.3	25.7	26.4	24.2	36.7	37.4	39.7	39.5	28.2	28.8	29.8	28.0				
	D.R.	14.3	13.3	11.7	12.0	16.9	15.8	14.8	14.8	15.0	14.0	12.5	12.7				
	I.D.R.	113.7	105.4	91.7	95.1	104.5	99.5	89.9	85.2	110.7	103.4	91.1	91.6				
6. Maharashtra .	B.R.	28.9	27.4	28.7	29.3	29.6	28.1	30.5	29.8	29.1	27.6	29.2	29.5				
	D.R.	17.0	16.8	14.0	12.6	13.4	13.1	12.1	11.3	16.0	15.7	13.5	12.2				
	I.D.R.	121.5	122.9	114.2	94.4	89.6	103.6	89.5	83.6	112.6	117.2	106.8	91.2				

7. Orissa	.	.	B.R.	24.5	23.7	28.5	24.4	25.1	26.8	30.2	30.2	24.6	23.8	28.6	24.6
	.	.	D.R.	18.1	17.2	13.9	13.5	14.2	14.6	13.5	12.7	18.0	17.1	13.9	13.5
	.	.	I.D.R.	177.1	157.0	120.2	135.9	121.8	117.5	117.8	119.9	174.8	155.2	120.0	135.0
8. Punjab	.	.	B.R.	38.0	38.1	36.9	36.5	32.9	33.6	31.9	32.5	37.0	37.3	36.0	35.7
	.	.	D.R.	13.9	15.0	11.9	13.5	8.5	8.9	7.7	8.3	12.9	13.9	11.1	12.5
	.	.	I.D.R.	106.3	115.7	101.9	102.5	69.6	73.1	64.8	65.4	100.1	108.4	95.6	96.1
9. Uttar Pradesh	.	.	B.R.	12.4	13.3	12.5	13.8	27.9	28.4	28.2	29.1	14.5	15.4	14.6	15.9
	.	.	D.R.	7.6	8.7	7.1	8.4	12.2	13.6	11.2	12.4	8.3	9.4	7.7	8.9
	.	.	I.D.R.	95.9	99.5	83.0	90.8	100.8	113.3	91.2	94.6	97.2	103.0	85.1	91.7
10. West Bengal	.	.	B.R.	20.5	20.2	23.4	19.4	20.3	20.1	19.9	18.6	20.5	20.2	22.7	19.2
	.	.	D.R.	8.7	8.2	7.0	7.3	10.7	9.2	8.8	8.7	9.1	8.4	7.4	7.6
	.	.	I.D.R.	75.0	71.6	62.1	69.4	125.0	112.9	109.0	106.0	85.6	80.4	69.8	76.7
Above 10 States combined			B.R.	20.4	20.7	21.9	20.9	27.9	28.1	29.1	29.2	21.9	22.2	23.2	22.5
			D.R.	11.1	9.5	9.7	9.8	12.2	12.4	11.1	11.2	11.4	11.8	9.9	10.1
			I.D.R.	110.1	110.0	92.9	93.4	97.1	101.9	87.5	85.0	107.0	108.0	91.6	91.3
11. Kerala	.	.	B.R.	21.8	22.2	23.2	20.8	33.2	35.7	42.4	39.3	22.9	23.5	24.9	22.6
	.	.	D.R.	8.9	6.8	7.0	6.2	12.2	11.6	11.9	10.2	9.2	7.2	7.4	6.6
	.	.	I.D.R.	62.8	49.6	50.9	41.4	49.9	48.5	43.4	31.8	61.0	49.5	49.8	39.8
12. Mysore	.	.	B.R.	..	21.5	26.1	28.4	..	27.1	34.1	26.8	22.4	22.8	27.9	27.9
	.	.	D.R.	..	10.1	11.9	11.7	..	10.4	12.7	8.4	10.9	10.2	12.0	10.7
	.	.	I.D.R.	..	75.1	73.9	65.6	..	59.7	60.3	51.6	76.6	70.9	70.2	61.6
Above 12 States combined	.	.	B.R.	20.5	20.8	22.2	21.2	28.1	28.2	29.7	29.3	22.0	22.3	23.6	22.8
	.	.	D.R.	11.0	11.3	9.6	9.7	12.4	12.2	11.2	11.0	11.2	11.5	9.9	10.0
	.	.	I.D.R.	107.2	104.2	89.2	88.9	95.6	96.8	83.9	80.8	102.5	102.4	87.9	86.9
13. Assam	.	.	B.R.	8.1	7.5	7.3	6.1	20.8	22.4	23.8	21.5	8.7	8.2	8.1	6.8
	.	.	D.R.	3.6	3.4	3.4	2.5	8.1	7.9	8.3	7.2	3.8	3.6	3.6	2.7
	.	.	I.D.R.	94.3	81.8	92.0	89.7	69.1	46.7	70.1	71.6	91.5	77.4	89.0	87.0

Table 3—contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
14. Bihar .	. B.R.	13.2	12.4	12.5	11.2	13.1	13.3	13.1	15.2	13.2	12.5	12.6	11.4
	D.R.	7.3	7.3	5.3	4.9	6.6	7.2	4.8	6.0	7.3	7.3	5.3	5.0
	I.D.R.	61.5	73.1	72.8	90.5	66.8	88.1	66.5	70.0	61.8	74.0	72.5	80.4
15. Rajasthan .	. B.R.	..	..	..	..	..	..	12.9	13.7	..	..	12.9	13.7
	D.R.	..	..	..	..	..	..	7.4	8.0	..	..	7.4	8.0
	I.D.R.	..	..	..	..	..	..	..	115.9	..	..	..	115.9
16. Andaman and Nicobar Islands.	B.R.	7.5	15.1	18.6	17.2	51.9	38.3	40.2	41.5	18.8	21.1	24.3	23.5
	D.R.	2.4	6.8	6.0	6.4	11.3	9.6	7.1	7.3	4.7	7.5	6.3	6.6
	I.D.R.	70.2	67.8	43.5	33.7	41.5	61.6	19.9	21.1	50.0	64.9	33.2	27.9
17. Himachal Pradesh .	B.R.	17.1	15.7	16.0	17.2	17.8	19.5	26.9	16.4	17.1	15.8	16.4	17.1
	D.R.	7.7	7.4	7.3	9.1	5.0	10.5	11.2	4.0	7.6	7.5	7.5	8.9
	I.D.R.	..	..	..	84.3	..	..	..	60.0	..	..	..	83.3
18. Pondicherry .	. B.R.	..	..	26.7	26.6	..	..	103.6	84.5	..	..	42.4	38.5
	D.R.	..	..	17.4	20.8	..	..	31.7	32.6	..	..	20.3	23.2
	I.D.R.	..	..	189.1	..	..	..	42.9	..	..	..	116.1	..

B.R.—Birth Rate.

D.R.—Death Rate.

I.D.R.—Infant Death Rate.

.. Information not available.

Table 4

Proportion per 1,000 infant deaths

B. List No.	A. List No.	Cause group	Thailand (1958)	Ceylon (1959)	Nagpur (1959)	Poona (1960)	Bombay (1960)	Rajasthan (1960)	West Bengal (1960)
1	2	3	4	5	6	7	8	9	10
42-44		Certain disease of early infancy . . .	187	550	590	498	191	520	436
	130	Birth injuries . . .	..	15	24	22	..	32	23
	131	Postnatal asphyxia and atelectasis . . .	..	28	85	28	..	60	67
	132	Infections of the new-born . . .	..	721	53	62	..	96	64
133-134		Haemolytic disease of the new-born and all other defined diseases of early infancy . . .	..	21	29	34	..	52	37
	135	Ill-defined diseases peculiar to early infancy and immaturity unqualified . . .	..	414	399	352	..	280	245
30-31		Influenza and Pneumonia . . .	74	77	65	114	289	128	90
	88	Influenza . . .	..	6	..	..	..	..	..
	89	Lobar pneumonia . . .	..	1	..	1	..	7	2
	90	Bronchopneumonia . . .	..	59	60	104	..	115	67
	91	Primary atypical, other and unspecified pneumonia . . .	..	11	5	9	..	6	21

Table 4—contd.

	1	2	3		4	5	6	7	8	9	10
36	Gastritis, duodenitis, except diarrhoea of the new born	.	.	Gastritis, enteritis, and colitis,	62	54	95	122	..	110	138
101	Gastritis and duodenitis	.	.	.	..	..	1	..	..	..	..
104	Gastro-enteritis and colitis, except the new born	.	.	. diarrhoea of	..	54	94	122	..	..	138
32	Bronchitis . . . . .	.	.	.	7	10	2	8	4	7	5
92	Acute Bronchitis . . . . .	.	.	.	..	2	1	7	..	4	3
93	Bronchitis, chronic and unqualified . . . . .	.	.	.	..	8	1	1	..	3	2
41	Congenital malformations . . . . .	.	.	.	1	3	30	32	238	49	28
127	Spina bifida and meningo cele . . . . .	.	.	.	..	..	..	1	..	9	3
128	Congenital malformations of circulatory system . . . . .	.	.	.	..	..	7	12	..	9	6
129	All other congenital malformations . . . . .	.	.	.	..	3	23	19	..	31	19
											330

Table 5

Statement showing proportionate distribution of births of various orders registered in 1959 and 1960
(Percentage Births by their order, 1960)

Town or State	1	2	3	4	5	6	7	8	9	10+	Combined (1960)			Combined (1959)			Birth Rate
											1—3	4—5	6+	1—3	4—5	6+	
1 Ahmedabad . . .	14.4	16.0	17.4	16.1	12.4	8.4	5.9	3.8	2.5	3.1	47.8	28.5	23.7	48.2	28.6	23.2	37.6
2. Bombay . . .	28.3	22.9	18.0	12.8	8.2	5.0	2.6	1.3	0.5	0.4	69.2	21.0	9.8	66.0	22.4	11.6	26.4
3. Calcutta . . .	18.4	16.2	13.9	11.7	10.9	10.4	7.6	5.1	3.1	2.7	48.5	22.6	28.9	48.9	29.9	29.2	24.6
4. Delhi . . .	19.3	17.3	16.0	13.7	10.3	8.5	5.8	3.8	2.7	2.6	52.6	24.0	23.4	51.3	25.5	23.2	29.3
5. Hyderabad . . .	23.7	18.8	15.2	12.3	9.3	7.1	5.4	3.5	2.2	2.5	57.7	21.6	20.7	60.3	21.6	18.1	23.2
6. Madras City . . .	20.9	19.1	16.9	13.6	10.8	7.5	5.0	3.1	1.7	1.5	56.9	24.4	18.7	55.6	24.8	19.6	42.5
7. Andhra Pradesh . . .	21.8	18.3	16.1	13.1	10.2	7.7	4.9	3.6	2.1	2.4	56.2	23.3	20.5	55.4	24.2	20.4	36.3
8. Bihar . . .	17.8	18.2	17.2	15.2	12.4	6.7	4.7	3.5	2.2	2.1	53.2	27.6	19.2	52.2	27.5	20.3	14.5
9. Gujarat . . .	16.1	16.3	16.9	15.1	11.8	8.1	5.9	3.9	2.6	3.3	49.3	26.9	23.8	..	..	..	36.0
10. Kerala . . .	23.4	15.9	12.7	12.2	11.0	8.8	6.2	4.4	2.5	2.9	52.0	23.2	24.8	50.3	25.2	24.5	44.2
11. Madhya Pradesh* . . .	18.5	17.5	16.8	13.1	10.8	9.4	5.0	4.0	2.5	2.4	..	..	..	52.8	23.9	23.3	31.0
12. Madras State . . .	22.9	18.4	15.3	12.5	9.8	7.1	5.9	3.3	2.6	2.2	56.6	22.3	21.1	54.6	23.2	22.2	48.5
13. Maharashtra . . .	22.2	18.4	14.4	13.4	11.1	7.2	5.0	3.7	2.2	1.4	55.0	24.5	20.5	..	..	..	32.3
14. Mysore . . .	20.4	17.0	15.0	12.2	10.4	7.9	6.5	3.9	3.3	3.4	52.4	22.6	25.0	52.2	23.7	24.1	35.1
15. Orissa . . .	27.8	24.6	17.0	12.0	7.7	4.3	2.5	1.7	1.1	1.3	69.4	19.7	10.9	70.1	18.8	11.1	50.5
16. Punjab . . .	22.0	20.1	17.7	14.2	10.5	7.1	4.1	2.2	1.3	0.8	59.8	24.7	15.5	64.5	22.3	13.2	32.5
17. West Bengal . . .	18.1	18.0	17.6	14.2	10.9	7.1	5.6	3.9	3.0	1.6	53.7	25.1	21.2	50.4	23.5	26.1	11.2
18. Indian Cities (1960) . . .	20.5	17.8	15.8	13.5	10.7	7.7	5.5	3.5	2.5	2.5	54.1	24.2	21.7	..	..	..	32.9
19. Indian Cities (1959) . . .	19.8	17.8	16.0	13.5	10.9	8.0	5.6	3.6	2.3	2.5	53.6	24.4	22.0	..	..	..	..
20. 1948 Study . . .	21.0	19.6	16.7	13.1	9.4	6.9	4.8	3.3	2.1	3.1	57.3	22.5	20.2	..	..	..	..

*Relates to 1959.

Table 6

Statement showing percentage births by their Order in foreign Countries

Country	Year	Birth Order										Birth orders combined					Birth Rate
		1	2	3	4	5	6	7	8	9	10+	1—3	4—5	6+			
1. U. S. A.	. . . 1957	27.5	25.8	19.5	11.7	6.4	3.6	2.1	1.3	0.8	1.3	72.8	18.1	9.1	25.0		
2. U. K.	. . . 1957	40.2	29.8	15.0	7.2	3.6	1.9	1.0	0.6	0.3	0.4	85.0	10.8	4.2	16.5		
3. France	. . . 1958	32.4	25.4	17.0	10.3	6.1	3.6	2.2	1.3	0.8	0.9	74.8	16.4	8.8	18.2		
4. Italy	. . . 1957	36.5	27.3	15.0	8.4	5.0	3.0	2.0	1.2	0.7	0.9	78.8	13.4	7.8	18.1		
5. Austria	. . . 1958	35.4	29.2	16.8	8.7	4.6	2.5	1.3	0.7	0.3	0.5	81.4	13.3	5.3	17.1		
6. Denmark	. . . 1957	33.1	30.2	17.8	9.5	4.5	2.3	1.1	0.6	{ 0.9 }		81.1	14.0	4.9	16.8		
7. Australia	. . . 1958	31.2	27.5	19.5	11.0	5.4	2.6	1.3	0.7	0.4	0.4	78.2	16.4	5.4	22.6		
8. Canada	. . . 1958	27.0	23.5	17.8	11.6	7.1	4.4	2.8	1.9	1.3	2.6	68.3	18.7	13.0	27.6		
9. Japan	. . . 1957	37.6	29.4	16.5	8.7	4.2	1.9	0.9	0.5	0.2	0.1	83.5	12.9	3.6	17.2		
10. Indonesia	. . . 1951	31.8	26.2	18.1	12.6	4.5	3.0	1.6	0.7	0.6	0.9	76.1	17.1	6.8	29.7*		
11. Chile	. . . 1956	24.7	19.2	15.1	11.4	8.3	6.4	4.6	3.5	2.4	4.4	59.0	19.7	21.3	34.2		
12. Paraguay	. . . 1957	27.7	17.7	14.3	10.7	8.0	6.3	4.7	3.4	2.6	4.6	59.7	18.7	21.6	46.6*		
13. Ecuador	. . . 1957	18.2	17.1	16.0	13.2	10.6	8.3	5.8	4.1	{ 6.7 }		51.3	23.8	24.9	47.1		

14. Mexico	.	.	.	.	.	.	1957	21.8	18.7	16.2	13.0	9.8	7.6	5.2	3.7	2.3	1.7	56.7	22.8	20.5	47.3
15. Thailand	.	.	.	.	.	.	1956	23.2	18.4	15.3	12.4	9.8	7.0	5.0	3.4	2.2	3.3	56.9	22.2	20.9	37.4
16. Philippines	.	.	.	.	.	.	1957	21.5	19.5	15.4	13.6	10.5	7.5	4.7	3.0	1.8	2.5	56.4	24.1	19.5	22.0
17. Puerto Rico	.	.	.	.	.	.	1957	21.6	20.0	14.3	10.2	7.6	6.0	5.2	3.8	3.4	7.9	55.9	17.8	26.3	33.3
18. Egypt	.	.	.	.	.	.	1956	11.4	14.3	17.7	17.3	13.2	9.8	6.3	4.2	2.9	2.9	43.4	30.5	26.1	47.6
19. Indian Cities	.	.	.	.	.	.	{	1960	20.5	17.8	15.8	13.5	10.7	7.7	5.5	3.5	2.5	2.5	..	..	..
	.	.	.	.	.	1959		19.8	17.8	16.0	13.5	10.9	8.0	5.6	3.6	2.3	2.5	2.5	..	..	..
20. Study	.	.	.	.	.	.	1948	21.0	19.6	16.7	13.1	9.4	6.9	4.8	3.3	2.1	3.1	..	..	..	..

*Relates to 1950-54.

Table 7

Infant death rates in the various towns with population of 30,000 and over in the various States of India during the year 1960

States	Average		Number of towns		Towns having infant death rate					
	1957-59	1960	Total	Informa- tion not given	Below 90	90—100	100—120	120—150	150+	
1. Andhra Pradesh	76	72	30	1	23	3	..	3	..	
2. Assam	70	109	4	..	3	..	..	..	1	
3. Bihar	44	63	23	10	7	2	1	2	1	
4. Delhi	76	82	3	..	2	..	1	..	..
5. Gujarat	114	96	22	..	14	4	3	1	..	
6. Kerala	50	35	13	..	13	..	..	..	..
7. Madhya Pradesh	75	92	20	1	9	2	3	1	4	
8. Madras	104	91	43	1	30	2	8	2	..	
9. Maharashtra	103	93	41	1	30	3	2	4	1	
10. Mysore	81	65	23	4	17	1	1	..	..
11. Orissa	137	76	3	..	2	..	..	1	..	
12. Pondicherry	..	197	1	..	..	..	..	..	1	
13. Punjab	79	71	20	..	17	1	2	..	..
14. Rajasthan	172	141	14	1	6	1	1	1	4	
15. Uttar Pradesh	98	97	48	..	22	6	11	4	5	
16. West Bengal	126	113	40	2	25	..	..	8	5	
India	101	88	348	21	220	25	33	27	22	

, Nil information.

Table 8

Maternal death rates in the various towns with population of 30,000 and over in the various States of India during the year 1960

States	Average		Number of towns		Towns having maternal death rate					
	1957-59	1960	Total	Informa- tion not given	Below 2	2—5	5—10	10—15	15+	
1. Andhra Pradesh	5.0	4.7	30	2	5	7	11	2	3	
2. Assam	8.7	†	4	4	..	..	..	..	..
3. Bihar	3.0	3.7	23	15	2	2	3	..	1	
4. Delhi	1.6	1.0	3	1	2	..	..	..	..
5. Gujarat	2.6	1.6	22	1	9	7	4	..	1	
6. Kerala	3.2	2.2	13	1	9	1	2	..	..
7. Madhya Pradesh	4.1	3.4	20	1	6	4	5	3	1	
8. Madras	4.7	4.0	43	1	7	19	12	3	1	
9. Maharashtra	2.9	2.5	41	4	15	11	10	1	..	
10. Mysore	3.1	8.8	23	4	2	11	3	2	1	
11. Orissa	4.8	3.4	3	..	1	1	1	..	..
12. Pondicherry	†	13.6	1	..	..	..	..	1	..	
13. Punjab	2.1	3.0	20	9	7	3	1	..	..
14. Rajasthan	10.2	28.9	14	2	3	3	1	2	3	
15. Uttar Pradesh	4.0	3.0	48	12	22	8	5	1	..	
16. West Bengal	2.7	3.0	40	14	3	7	11	3	2	
INDIA	3.6	3.7	348	71	93	84	69	18	13	

.. Nil information.

† Information not available.

Table 9

Smallpox death rates in India during the years 1900 to 1960

Years	1	2
1900	.	0.39
1901	.	0.41
1902	.	0.53
1903	.	0.41
1904	.	0.24
1905	.	0.30
1906	.	0.47
1907	.	0.47
1908	.	0.80
1909	.	0.47
1910	.	0.23
1911	.	0.19
1912	.	0.29
1913	.	0.34
1914	.	0.27
1915	.	0.30
1916	.	0.22
1917	.	0.22
1918	.	0.33
1919	.	0.47
1920	.	0.35
1921	.	0.17
1922	.	0.17
1923	.	0.18
1924	.	0.23
1925	.	0.36
1926	.	0.51
1927	.	0.52
1928	.	0.41
1929	.	0.31
1930	.	0.33
1931	.	0.15
1932	.	0.17
1933	.	0.40
1934	.	0.33
1935	.	0.36
1936	.	0.4
1937	.	0.2
1938	.	0.1
1939	.	0.17
1940	.	0.25
1941	.	0.2

Table 9—contd.

1	2
1942	0.09
1943	0.2
1944	0.7
1945	0.5
1946	0.2
1947	0.1
1948	0.2
1949	0.1
1950	0.3
1951	0.44
1952	0.20
1953	0.10
1954	0.10
1955	0.10
1956	0.05
1957	0.2
1958	0.43
1959	0.06
1960	0.02

Table 10

Death rates (per mille of population) from Plague during the years
1941 to 1960

[illegible]

Table 11

Annual deaths recorded due to Cholera in certain foreign countries, along with the India's mortality statistics, during the years 1951 to 1960.

Countries	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Burma	4,771	236	9	19	13	6	20	5	5	200
Cambodia	10	10	1	4	..	1	1	—	..	..
Pakistan*	17,314	19,416	27,132	12,473	14,096	18,471	7,002	15,740	22,676	@6,608
Thailand . . . . .	..	..	..	..	..	..	..	1747	625	..
Viet Nam	14	6	3	..	..	..	..	..	..	..
Ceylon . . . . .	..	..	11	1	..	..	..	..	..	..
Nepal . . . . .	..	..	..	..	..	..	..	384	..	30
Afghanistan . . . . .	..	..	..	..	..	..	..	..	..	199
INDIA	41,543	58,252	101,731	19,340	7,652	17,206	49,715	50,114	6,290	18,565

NOTE.— * Relates to East Pakistan only.
 @Preliminary figures.
 ..Information not available.
 —Nil

Table 12

Diseases that are notifiable in the various States/Territories in India during the year 1960

States/Territories	Diseases Notifiable
1. Andhra Pradesh	1. Acute Influenzal Pneumonia. 2. Anthrax. 3. Cerebro-spinal Fever. 4. Chicken Pox. 5. Cholera. 6. Diphtheria. 7. Enteric Fever. 8. Leprosy. 9. Measles. 10. Plague. 11. Rabies. 12. Relapsing fever. 13. Scarlet fever. 14. Smallpox. 15. Tuberculosis. 16. Typhus. 17. Virus-Encephalitis.
2. Assam	1. Tuberculosis. 2. Diphtheria. 3. Enteric Group of Fevers. 4. Cerebro-spinal meningitis. 5. Yellow fever. 6. Infantile paralysis. 7. Meningococcal Meningitis. 8. Cholera. 9. Plague. 10. Smallpox. 11. Kala-azar. 12. Leprosy. 13. Typhus. 14. Whooping cough. 15. Measles. 16. Mumps. 17. Chicken Pox.
3. Bihar	1. Cholera. 2. Smallpox. 3. Tuberculosis. 4. Plague. During epidemic the diseases viz., Influenza, Infectious Hepatitis and Encephalitis are also declared notifiable.

Table 12—contd.

States/Territories	Diseases Notifiable
4. Bombay (Maharashtra and Gujarat States combined)	<p><i>In Municipalities :</i></p> <ol style="list-style-type: none"> 1. Plague. 2. Smallpox. 3. Cholera. 4. Enteric fevers. 5. Scarlet fever. 6. Diphtheria. 7. Typhus. 8. Relapsing fever. 9. Leprosy. 10. Influenzal Pneumonia. 11. Cerebro spinal fever. 12. Yellow fever. 13. Encephalitis. 14. Jaundice and Tuberculosis is notifiable in the Municipalities of Bombay, Ahmedabad and Poona Corporation. <p><i>In Rural areas :</i></p> <ol style="list-style-type: none"> 1. Cholera. 2. Smallpox. 3. Plague. 4. Influenza (Influenzal Pneumonia). 5. Yellow fever. 6. Encephalitis. 7. Jaundice.
5. Delhi	<ol style="list-style-type: none"> 1. Cholera. 2. Smallpox. 3. Plague. 4. Infective Hepatities. 5. Virus-encephalitis. 6. Poliomyelitis. 7. Influenza. 8. Diphtheria. 9. Chickenpox. 10. Measles. 11. Whooping cough. 12. Mumps ; 13. Cerebrospinal fever. 14. Dysentery (Amoebic and Bacillary). 15. Tuberculosis (All kinds). 16. Enteric fever. 17. Typhus. 18. Scarlet fever. 19. Puerperal fever. 20. Leprosy.

Table 12—contd.

States/Territories	Diseases Notifiable
	21. Relapsing fever.
	22. Erysipelas.
6. Himachal Pradesh .	1. Smallpox.
	2. Cholera.
	3. Plague.
7. Kerala . . .	<i>Travancore-Cochin area :</i>
	1. Anthrax.
	2. Cholera.
	3. Enteric fever.
	4. Measles.
	5. Rabies.
	6. Smallpox.
	7. Whooping Cough.
	8. Chickenpox.
	9. Diphtheria.
	10. Malaria.
	11. Mumps.
	12. Plague.
	13. Tuberculosis.
	<i>Malabar area :</i>
	1. Cerebro spinal fever.
	2. Cholera.
	3. Measles.
	4. Rabies.
	5. Smallpox.
	6. Chickenpox.
	7. Diphtheria.
	8. Plague.
	9. Scarlet fever.
	10. Typhus.
8. Madhya Pradesh .	1. Anthrax.
	2. Cerebrospinal meningitis.
	3. Chickenpox.
	4. Cholera.
	5. Diphtheria.
	6. Dysentery (Bacillary and Amoebic).
	7. Encephalitis Lethargica.
	8. Epidemic Pneumonia.
	9. Acute poliomyelitis.
	10. Enteric group of fevers viz. Typhoid, Paratyphoid, A.B.C. fevers.
	11. Influenza.
	12. Leprosy.
	13. Measles.
	14. Mumps.
	15. Plague.

Table 12—contd.

States/Territories	Diseases Notifiable
	16. Puerperal fever. 17. Relapsing fever. 18. Scarlet fever. 19. Smallpox. 20. Tuberculosis of lungs. 21. Typhus. 22. Whooping cough.
9. Madras	1. Cerebrospinal fever. 2. Chickenpox. 3. Cholera. 4. Diphtheria. 5. Leprosy. 6. Measles. 7. Plague. 8. Rabies. 9. Scarlet fever. 10. Smallpox. 11. Typhus. 12. Yellow fever. 13. Enteric fever. 14. Poliomyelitis. 15. Infective Hepatitis. 16. Virus Encephalitis. 17. Whooping cough. 18. Tuberculosis.
10. Manipur	1. Cholera. 2. Smallpox. 3. Plague.
11. Mysore	1. Cerebrospinal fever. 2. Chickenpox. 3. Cholera. 4. Diphtheria. 5. Leprosy. 6. Measles. 7. Plague. 8. Rabies. 9. Scarlet fever. 10. Smallpox. 11. Typhus. 12. Influenza. 13. Encephalitis. 14. Kyasanur Forest Disease.
12. Orissa	There is no legal provision at present declaring any communicable disease as notifiable in the State, except in non-Panchayat rural areas of Ganjam plains, where only Smallpox is notifiable. Cholera and Smallpox are made notifiable under the Epidemic Diseases Act, 1897 as and when necessary.

Table 12—contd.

States/Territories	Diseases Notifiable
13. Punjab	<p><i>Urban areas :</i></p> <ol style="list-style-type: none"> 1. Cholera. 2. Plague. 3. Typhus fever (louse-borne). 4. Smallpox. 5. Relapsing fever (louse-borne). 6. Yellow fever. 7. Chickenpox. 8. Cerebro spinal Meningitis. 9. Diphtheria. 10. Dysentery (Amoebic and Bacillary) 11. Diarrhoea of the new born epidemic. 12. Erysipelas. 13. Food poisoning (Infectious). 14. Gonococcal infection 15. Influenza. 16. Leprosy. 17. Measles. 18. Infectious partitis (Mumps). 19. Puerperal fever. 20. Acute poliomyelitis (Infantile paralysis). 21. Typhoid fever. 22. Para-typhoid fever. 23. Tuberculosis (including Tuberculosis of lungs). 24. Whooping cough. 25. Syphilis. 26. Virus Encephalitis. <p><i>Rural Areas :</i></p> <ol style="list-style-type: none"> 1. Cholera. 2. Smallpox. 3. Plague.
14. Rajasthan	<ol style="list-style-type: none"> 1. Smallpox. 2. Cholera. 3. Plague. 4. Infectious Hepatitis. 5. Diphtheria. 6. Cerebrospinal fever. 7. Poliomyelitis. 8. Typhus.
15. Tripura	No disease is notifiable in this Territory.
16. Uttar Pradesh	<ol style="list-style-type: none"> 1. Cholera. 2. Smallpox. 3. Plague. 4. Scarlet fever. 5. Diphtheria. 6. Measles.

Table 12—contd.

States/Territories	Diseases Notifiable
	7. Enteric fever. 8. Yellow fever. 9. Cerebrospinal fever. 10. Typhus. 11. Relapsing fever. 12. Pulmonary Tuberculosis. 13. Acute Poliomyelitis.
17. West Bengal	1. Anthrax. 2. Chickenpox. 3. Dysentery (both bacillary and Amoebic). 4. Measles. 5. Relapsing fever. 6. Tuberculosis (of all forms). 7. Typhus fever. 8. Whooping cough. 9. Yellow fever. 10. Influenzal Pneumonia. 11. Leprosy. 12. Epidemic dropsy. 13. Diphtheria. 14. Typhoid. 15. Para-typhoid A. 16. Para-typhoid B. 17. Cholera. 18. Plague. 19. Smallpox. 20. Cerebro spinal Meningitis. 21. Syphilis. 22. Dengue. 23. Malaria. 24. Elephantiasis. 25. Influenza. 26. Encephalitis. 27. Poliomyelitis. 28. Enteric Group of fevers. 29. Mumps (in Darjeeling district only).
18. Andaman and Nicobar Islands.	Infectious diseases such as Cholera, Smallpox and Diphtheria in case of incidences are made notifiable by the Chief Commissioner and Poliomyelitis is made notifiable at the time of epidemic.
19. Pondicherry.	1. Amoebic Dysentery. 2. Enteritis. 3. Smallpox. 4. Chickenpox. 5. Influenza. 6. Avitaminosis.

Table 13

Deaths from Respiratory Group of diseases by months and reported deaths from Pulmonary Tuberculosis in the various States and Union Territories in India during the year 1960.

States	January	February	March	April	May	June	July	August	Septem-ber	October	Novem-ber	Decem-ber	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Andhra Pradesh	1,431	1,543	1,466	1,339	1,316	1,331	1,394	1,665	1,442	1,654	1,577	1,493	17,532
2. Assam	280	251	227	262	282	279	293	257	294	251	236	298	3,210
3. Bihar	317	308	346	235	207	245	212	230	265	236	302	338	3,241
4. Gujarat	2,930	3,002	3,316	3,359	3,402	2,605	2,573	2,720	2,583	2,383	2,653	2,673	34,196
5. Jammu and Kashmir	+	+	+	+	+	+	+	+	+	+	+	+	+
6. Kerala	941	908	991	1,027	1,062	1,198	1,216	1,160	1,109	1,205	1,139	1,213	13,169
7. Madhya Pradesh	1,149	1,204	1,185	1,471	1,492	1,272	1,118	1,454	1,290	1,422	1,348	1,490	15,895
8. Madras	3,543	3,773	3,418	3,433	3,250	3,007	3,020	3,102	2,874	3,255	3,631	4,306	40,612
9. Maharashtra	5,736	5,282	5,597	5,158	5,141	4,553	5,044	5,810	5,416	5,423	5,886	5,764	64,810
10. Mysore	1,161	1,224	1,263	1,216	1,259	1,161	1,252	1,334	1,241	1,400	1,286	1,375	15,172
11. Orissa	544	415	558	494	525	455	532	519	568	554	562	566	6,292
12. Punjab	3,940	3,018	2,639	2,440	2,873	2,705	2,194	2,772	2,453	2,671	3,107	3,976	34,788
13. Rajasthan	385	420	399	275	308	295	241	231	277	240	325	385	3,791
14. Uttar Pradesh	5,775	5,224	5,164	4,436	4,522	4,826	4,813	4,632	4,339	5,032	5,874	6,835	61,472
15. West Bengal	+	+	+	+	+	+	+	+	+	+	+	+	+

Union Territories :

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.
1. Andaman and Nicobar Islands.																				
2. Delhi	.	.	489	402	367	271	311	399	284	321	318	390	54	495	4,561					
3. Himachal Pradesh	.	.	50	99	50	34	26	72	45	40	27	32	38	63	576					
4. Pondicherry	.	.	122	92	97	109	110	104	96	105	94	106	129	125	1,289					
5. Manipur	.	.	+	+	+	+	+	+	+	+	+	+	+	+	+					
6. Tripura	.	.	+	+	+	+	+	+	+	+	+	+	+	+	+					
7. Laccadive, Minicoy and Amindive Islands	.	.	+	+	+	+	+	+	+	+	+	+	+	+	+					
TOTAL	.	.	28,798	27,168	27,086	25,563	26,093	24,511	24,342	26,359	24,596	26,258	28,611	31,400	320,785					

NOTE.— + Information not available.

Table 14

Reported deaths from pulmonary tuberculosis in the various States and Union Territories in India during the year 1960

States	Reported deaths from pulmonary tuberculosis							Percentage of pulmonary tuberculosis deaths to total deaths due to respiratory group of diseases
	Rural	Percentage to total death	Urban	Percentage to total death	Total	Percentage to total death	Total	
1	2	3	4	5	6	7		
1. Andhra Pradesh	+	+	+	+	+	+	+	+
2. Assam	159	82.8	33	17.2	192	6.0	348	6.0
3. Bihar	31	31.3	68	68.7	99	3.1		3.1
4. Gujarat	5,803	68.9	2,615	31.1	8,418	24.6		24.6
5. Jammu and Kashmir	+	+	+	+	+	+		+
6. Kerala	2,157	87.7	303	12.3	2,460	18.7		18.7
7. Madhya Pradesh	1,356	73.5	490	26.5	1,846	11.6		11.6
8. Madras	+	+	2,685	+	2,685	6.6		6.6
9. Maharashtra	6,169	41.8	5,596	37.9	14,765	22.8		22.8
10. Mysore	4,880	72.6	1,006	15.0	6,718	44.3		44.3
11. Orissa	+	+	175	+	175	2.8		2.8
12. Punjab	1,268	84.8	228	15.2	1,496	4.3		4.3
13. Rajasthan	+	+	679	+	679	17.9		17.9

14. Uttar Pradesh	.	.	.	.	.	.	.	.	4,043	66.9	1,996	33.1	6,039	9.8
15. West Bengal	.	.	.	.	.	.	.	.	2,234	47.1	2,513	52.9	4,747	+
Union Territories :														
1. Andaman and Nicobar Islands	.	.	.	.	.	.	.	.	2	25.0	6	75.0	8	13.3
2. Delhi	.	.	.	.	.	.	.	.	68	9.3	662	90.7	730	16.0
3. Himachal Pradesh	.	.	.	.	.	.	.	.	63	91.3	6	8.7	69	12.0
4. Pondicherry	.	.	.	.	.	.	.	.	186	82.7	39	17.3	225	17.5
5. Manipur	.	.	.	.	.	.	.	.	+	+	+	+	+	+
6. Tripura	.	.	.	.	.	.	.	.	+	+	+	+	+	+
7. Laccadive, Minicoy and Adminidive Islands	.	.	.	.	.	.	.	.	+	+	+	+	+	+
TOTAL									31,419	62.2	19,122	37.9	50,541	15.8

NOTE. —+ Information not available.

Table 15

Statement showing the Statewise distribution of the number of persons tuberculin tested, number of cases showed positive results and the number of persons BCG. Vaccinated during the year 1960

States	Tuberculin tested	Positive	BCG. vaccinated
1. Andhra Pradesh	2,612,457	1,195,806	929,750
2. Assam	661,934	316,883	237,617
3. Bihar	3,394,786	1,761,217	1,389,326
4. Bombay*	2,116,696	926,612	794,154
5. Jammu and Kashmir	514,810	216,644	261,827
6. Kerala	307,197	150,283	113,373
7. Madhya Pradesh	942,194	457,040	32,310
8. Madras	1,275,024	599,732	369,916
9. Mysore	525,461	207,819	200,060
10. Orissa	695,864	240,063	253,689
11. Punjab	1,877,848	724,365	637,403
12. Rajasthan	491,948	150,918	178,894
13. Uttar Pradesh	194,786	1,056,668	526,063
14. West Bengal	1,747,366	982,974	607,524
Union Territories :			
1. Delhi	89,890	40,275	27,778
2. Andaman and Nicobar Islands	9,907	3,484	5,291
3. Himachal Pradesh	43,721	11,427	20,534
4. Manipur	45,637	22,002	17,101
5. N.H.T.A.	35,040	10,264	20,549
6. N.E.F.A.	3,052	545	1,817
7. Pondicherry	27,255	8,344	11,350
8. Tripura	50,285	28,611	13,805
TOTAL	19,416,058	9,111,976	6,946,131

NOTE— * Relates to Gujarat and Maharashtra.

Table 16
National Water Supply and Sanitation Programme (Urban)
List of Schemes approved during the year 1960

States	Name of the Scheme	Estimated Cost (Rs. in lakhs)
1	2	3
1. Bihar	1. Barh Water Supply	8.93
	2. Begusarai Water Supply	8.80
2. Jammu and Kashmir	3. Srinagar Water Supply	42.80
3. Madhya Pradesh	4. Indore Water Supply (Part)	5.69
4. Madras	5. Vellore W. S. Improvements	14.04
	6. Nagapattanam W. S. Improvements	14.00
	7. Chidambaram W. S. Improvements	5.25
	8. Kauveripatnam W. S. (1st stage)	0.14
	9. Idappadi W. S.	8.50
	10. Karur W. S. Improvements	1.28
	11. Vriddhachalam W. S.	5.00
	12. Dharapuram W. S.	8.90
	13. Kancheepuram W. S. (1st Stage)	13.41
	14. Mayuram W. S.	4.34
	15. Sivaganga W. S.	1.58
	16. Ooty W. S. (1st stage)	2.16
	17. Arcot and Ranipet W. S.	12.15
5. Mysore	18. Mysore City W. S.	40.80
6. Orissa	19. Berhampur W. S. (Reorg.)	50.14
	20. Puri W. S. (Reorg.)	38.02
	21. Sundergarh W. S. (Reorg.)	9.63
	22. Phulbani W. S.	1.39
7. Punjab	23. Sirsa W. S. (1st stage)	6.00
	24. Taran Taran W. S. (1st stage)	3.50
	25. Charki Dadri Drainage	4.00
	26. Bhiwani Improvements Drainage	3.35
	27. Jullundur Drainage	5.00
	28. Ludhiana Improvements Drainage (1st stage)	5.00
	29. Shahabad Water Supply (1st stage)	1.50
	30. Muktsar Drainage (1st stage)	2.53
	31. Amritsar Water Supply	17.33
	32. Ferozepore Water Supply	7.27
	33. Bahdurgarh Water Supply	7.42
	34. Abohar Water Supply	5.42
	35. Rohtak Drainage	3.57
	36. Yamunanagar Drainage	3.63
	37. Abohar Drainage	8.04
	38. Jullander Drainage	2.15
	39. Millerganj (Ludhiana Drainage)	3.33

Table 16—contd.

1	2	3
7. Punjab—contd.	40. Muktsar W. S. (Extension) . . .	4.51
	41. Hadel Water Supply . . .	4.55
	42. Nuh Water Supply . . .	2.09
	43. Jakhalmandi Water Supply . . .	1.84
	44. Kaithal Water Supply . . .	3.46
	45. Yamunanagar Extension W. S. . .	4.30
	46. Rohtak Extension W. S. . .	12.86
	47. Khanni Drainage . . .	2.16
	48. Thaneswar Water Supply . . .	2.69
	49. Moga Extension Water Supply . .	2.08
	50. Ferozepore Jhirkha Water Supply .	2.51
	51. Karnal Drainage . . .	4.10
	52. Panipat Drainage . . .	3.46
	53. Hoshiarpur Drainage . . .	5.37
	54. Ludhiana Drainage . . .	7.93
	55. Sonapat Drainage . . .	3.56
	56. Karnal Road Railway Water Supply .	0.89
8. Uttar Pradesh . . .	57. Gorakhpur Drainage . . .	10.00
	58. Ahraura Water Supply . . .	2.74
	59. Unnao Water Supply . . .	0.74
	60. Pokhrayan Water Supply . . .	2.23
	61. Bindiki Water Supply . . .	4.59
	62. Konch Water Supply . . .	3.00
	63. Bijnore Water Supply . . .	5.00
	64. Atrauli Water Supply . . .	4.30
	65. Tanakpur Water Supply . . .	1.63
	66. Choharpur Water Supply . . .	1.55
	67. Old Basti Water Supply . . .	3.00
	68. Sikandra Rao Water Supply . . .	4.25
	69. Mirzapur Water Supply (Emergency alternative) . . .	1.45
	70. Farrukhabad Water Supply . . .	0.77
	71. Kanpur Drainage . . .	18.00
	72. Mauranipur Water Supply . . .	10.03
	73. Mathura Drainage . . .	10.72
	74. Balrampur Water Supply . . .	7.57
	75. Agra Water Supply (Reorg.) . . .	7.00
	76. Allahabad (Reorg.) W. S. . .	1.00
	77. Luckow W. S. . .	1.00
	78. Lucknow (Reorg.) Drainage . . .	9.00
	79. Kandla Water Supply . . .	3.63
	80. Mathura W. S. (part work) . . .	2.69
9. West Bengal . . .	81. Kotrung Outfall Drainage Scheme .	2.35
GRAND TOTAL . . .		572.59

Table 17

National Water Supply and Sanitation Programme (Rural)
List of Schemes approved during the year 1960

States	Name of the Scheme	Estimated Cost (Rs. in lakhs)
1	2	3
1. Assam	1. Dambuk Water Supply Scheme, Garo Hills	1.18
	2. Tangla Water Supply Scheme	2.90
2. Bihar	3. Gargha & Other Villages	1.78
3. Jammu and Kashmir	4. Sopat Tangpora	0.50
4. Mysore	5. Bilgipetta and other eight Villages	8.40
5. Punjab	6. Nagar Water Supply Scheme	0.31
	7. Dabra	0.39
	8. Ladwa	0.46
	9. Lohari Jatto	0.66
	10. Bhagana	0.526
	11. Chotala	0.94
	12. Musudpur	0.74
	13. Mirchpur	0.9
	14. Mangoli	0.95
	15. Barwala	1.17
	16. Mayyar	0.48
	17. Jamal	0.744
	18. Rampura & Dhillanwali	0.456
	19. Paniwala Mota	0.527
	20. Ding	0.707
	21. Desh Malkana	0.770
	22. Mithri	0.430
	23. Hasangarh	0.822
	24. Darbekalan	0.500
	25. Kagdana	0.493
	26. Daulatpur	0.790
	27. Sikhwala	0.41
	28. Tarmala	0.142
	29. Abulkhurana	0.470
	30. Deonkhera	0.191
	31. Badal	0.183
	32. Chak Chibranwali	0.981
	33. Kheowali	0.604
	34. Sari Naga	0.760
	35. Ismalia	1.042
	36. Kharkhanda	0.574

Table 17—contd.

1	2	3
5. Punjab—contd.	37. Tigaon	0·893
	38. Kot	0·589
	39. Dighaut	0·716
	40. Ourangabad	0·710
	41. Rampura	0·855
	42. Kurali	0·711
	43. Debhan	0·675
	44. Dhimanwali	0·265
	45. Talwandi Sabo	6·997
	46. Bardha	1·300
	47. Fatehgarh	0·660
	48. Kaila	0·755
	49. Misri	0·830
	50. Jhajoo Kalan	0·936
	51. Tikkari	0·274
	52. Mant Area	0·160
	53. Katrain etc.	0·580
	54. Tikka Barhan Mauza Sanesl	0·288
	55. Dhar & Chadiar	5·840
	56. Bhadwar and adjoining Villages	1·667
	57. Kandi Area (Part I)	9·53
	58. Sanjarwas and Phangant	0·85
	59. South East Side of Pinjore Group	0·66
	60. Khande and Kheri	0·92
	61. Bond Kalan, Bond Khurd & Rankoli	2·13
	62. Talokepur and Bhud	0·83
	63. Jhajoo Khurd	0·560
6. Uttar Pradesh	64. Kaulagarh	0·35
GRAND TOTAL		75·453

Table 18

Primary Health Centres in India during the year 1960

States/Union Territories	No. of Primary Health Centres established during the First Five Year Plan period and during the first four years of the Second Five Year Plan period	No. of Primary Health Centres to be opened during 1960-61	No. of Primary Health Centres opened during the year 1960 i.e., as on 31-12-1960
1. Andhra Pradesh	150	50	22
2. Assam	58	12	2
3. Bihar	329	54	27
4. Gujarat	73	35	21
5. Jammu and Kashmir	23	10	10
6. Kerala	76	8	3
7. Madhya Pradesh	178	22	20
8. Maharashtra	192	140	44
9. Madras	128	26	3
10. Mysore	112	37	37
11. Orissa	86	83	2
12. Punjab	145	32	6
13. Rajasthan	133	16	5
14. Uttar Pradesh	454	75	47
15. West Bengal	102@	20	12
16. Delhi	7	1	..
17. Himachal Pradesh	26	4	4
18. Manipur	4	2	..
19. Tripura	6	8	..
TOTAL	2,282	635	265

NOTES.— @Excluding 253 subsidiary health centres which also have a dispensary and two emergency non-dieted beds with a qualified Medical Officer-in-Charge besides other ancillary staff such as Midwife, Auxiliary nurse midwife, health assistant, pharmacist and class IV workers.

..Nil information.

Table 19

Number of Jails in different States and Union Territories in India during the years 1960 and 1959

States/Union Territories	Central Jails			District Jails			Subsidiary Jails			Temporary Jails			Borstal Schools			Juvenile Jails			Special Jails			Total		
	1960	1959		1960	1959		1960	1959		1960	1959		1960	1959		1960	1959		1960	1959		1960	1959	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17								
1. Andhra Pradesh .	4	5	6	6	156	156	..	..	1	..	..	..	1	..	168	167								
2. Assam .	+	..	+	16	+	..	+	..	+	..	+	..	+	1	+	17								
3. Bihar .	6	6	13	13	41	41	..	..	..	..	..	..	..	..	60	60								
4. Gujarat* .	2	+	4	+	534@	+	..	+	..	+	..	+	+	+	541	+								
5. Jammu and Kashmir .	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								
6. Kerala .	+	3	+	19	+	..	+	..	+	1	+	..	+	2	+	25								
7. Madhya Pradesh .	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								
8. Madras .	7	8	2**	1	129	128	..	..	1	1	..	..	..	..	139	138								
9. Maharashtra .	7	+	11	+	9	+	..	+	..	+	..	+	+	+	28	+								
10. Mysore .	4	4	3	3	..	..	..	..	..	..	..	..	..	4	11	11								
11. Orissa .	..	..	12	12	48	48	..	..	..	..	1	1	..	..	61	61								
12. Punjab .	3	3	12	10	16	17	..	..	..	..	..	..	..	..	31	30								
13. Rajasthan .	2	2	9	8	74	75	..	..	..	..	1	1	1	2	87	88								
14. Uttar Pradesh .	6	6	50	50	2	2	3	2	2	2	..	..	..	..	63	62								
15. West Bengal .	5	5	9	9	33	33	..	..	1	1	..	..	2	2	50	50								

Table 20

Statement showing the average daily population, authorised accommodation etc., in different Jails of the various States and Union Territories in India during the years 1960 and 1959

States/Union Territories	Average daily population		Authorised accommodation		Number of prisoners per 100 units of authorised accommodation	
	1960	1959	1960	1959	1960	1959
	2	3	4	5	6	7
1. Andhra Pradesh	.	.	.	.	.	.
2. Assam	.	.	.	.	.	.
3. Bihar	.	.	.	.	.	.
4. Gujarat*	.	.	.	.	.	.
5. Jammu and Kashmir	.	.	.	.	.	.
6. Kerala	.	.	.	.	.	.
7. Madhya Pradesh	.	.	.	.	.	.
8. Madras	.	.	.	.	.	.
9. Maharashtra	.	.	.	.	.	.
10. Mysore	.	.	.	.	.	.
11. Orissa	.	.	.	.	.	.
12. Punjab	.	.	.	.	.	.
13. Rajasthan	.	.	.	.	.	.
	4,682	4,735	3,545	3,545	133	134
	..	4,115	..	4,155	..	99
	19,673	21,063	..	17,486	114	120
	3,166	..	4,940	..	89	..

	..	3,171	..	4,312	..	74

	17,794	18,482	14,453	14,453	123	128
	35,829	37,536	21,392	..	96	91
	4,187	4,588	4,933	4,775	85	96
	4,349	4,282	5,467	5,467	79	79
	12,707	8,583	8,661	8,674	147	99
	3,315	3,272	5,815	5,815	57	56

14. Uttar Pradesh	.	.	.	.	.	.	.	.	.	35,517	35,829	36,349	36,049	98	99
15. West Bengal	.	.	.	.	.	.	.	.	.	13,782	14,635	12,619	12,619	109	116
Union Territories :															
1. Andaman and Nicobar Islands	..	.	.	.	.	.	.	.	.	54	40	105	105	57	38
2. Delhi	.	.	.	.	.	.	.	.	.	2,409	..	..	..	189	..
3. Himachal Pradesh	.	.	.	.	.	.	.	.	.	85	158	160	226	53	70
4. Manipur	.	.	.	.	.	.	.	.	.	341	262	..	277	..	95
5. Tripura	.	.	.	.	.	.	.	.	.	219	440	163	331	134	133
6. Pondicherry	.	.	.	.	.	.	.	.	.	260	..	300	..	10	..

NOTES.— * Information relates to the period from 1-5-1960 to 31-12-1960.

.. Information not available.

Table 21

Statement showing hospital admission rates, constant sick rates and percentages of prisoners who gained and lost weight and remained stationary in various Jails of different States in India during the years 1960 and 1959

States	Percentages of Prisoners											
	Hospital Admission rate per mille of average daily population		Death rate per mille of average daily population		Constantly sick rate per mille of average daily population		Who gained weight		Who remained stationary		Who lost weight	
	1960	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960	1959
1	2	3	4	5	6	7	8	9	10	11	12	13
1. Andhra Pradesh . . .	468.8	446.5	10.6	18.2	27.2	17.1	63.7	45.0	33.8	52.0	2.5	3.0
2. Assam . . .	+	519.3	+	9.7	+	37.4	+	42.5	+	49.2	+	8.3
3. Bihar . . .	552.4	829.4	2.6	7.1	43.3	39.4	29.0	53.0	68.0	42.0	3.0	5.0
4. Gujarat* . . .	723.3	+	3.1	+	29.9	+	+	+	+	+	+	+
5. Jammu and Kashmir . . .	+	+	+	+	+	+	+	+	+	+	+	+
6. Kerala . . .	+	1,247.9	+	1.3	+	23.2	+	66.7	+	31.9	+	1.4
7. Madhya Pradesh . . .	+	+	+	+	+	+	+	+	+	+	+	+
8. Maharashtra . . .	472.5	633.9	3.5	4.1	26.4	21.4	24.0	18.0	69.0	75.0	7.0	7.0
9. Madras . . .	265.8	292.1	4.3	3.4	19.2	11.5	61.0	61.3	37.6	36.9	1.4	1.8
10. Mysore . . .	3,287.0	1,413.5	0.3	1.7	36.3	34.7	38.7	11.0	53.7	85.0	7.6	4.0
11. Orissa . . .	1,262.4	2,314.3	7.4	9.3	54.0	60.3	65.7	65.2	28.3	29.7	6.0	5.1
12. Punjab . . .	909.7	925.2	1.7	1.1	21.6	26.6	28.1	24.8	67.7	72.4	4.2	2.9

13. Rajasthan . . .	1,615.3	999.1	3.0	1.2	35.9	30.9	53.5	56.1	37.4	38.0	9.1	5.9
14. Uttar Pradesh . . .	532.2	508.7	3.0	2.8	17.8	16.4	38.7	42.0	3.0	55.4	58.3	2.6
15. West Bengal . . .	1,653.9	522.0	3.9	2.7	42.4	35.7	22.7	19.0	73.6	78.0	3.7	3.0
Union Territories :												
1. Andaman and Nicobar Islands.	555.6	375.0	..	..	37.0	175.0	43.0	23.0	55.0	55.0	2.0	0.0
2. Delhi . . .	689.0	+	1.0	..	27.8	+	+	+	+	+	+	+
3. Himachal Pradesh . . .	7,141.2	10,943.0	..	..	341.2	132.0	45.0	60.0	39.0	32.0	16.0	16.0
4. Manipur . . .	378.3	603.1	..	3.8	+	84.0	18.0	15.0	68.0	50.0	14.0	18.0
5. Pondicherry . . .	3,534.6	+	..	+	11.9	+	75.0	+	20.0	+	50.0	+
6. Tripura . . .	575.3	575.0	4.6	..	7.1	15.9	90.6	30.0	9.4	77.0	0.0	1.0

Notes.— * Information relates to the period from 1-5-1960 to 31-12-1960.

+ Information not available.

.. Nil Information.

Table 22

Statement showing hospital admission rates per thousand of average daily population in different Jails of the various States in India during the year 1960

States	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
		Cholera	Small-pox	Plague	Influenza	Enteric Fever	Malaria	Pyrexia of uncertain origin	T.B. (lung)	Pneumonia	Other Respiratory Diseases	Dysentery	Diarrhoea	Anaemia and debility	Other diseases	All other causes	Total
1. Andhra Pradesh	46.2	..	20.6	1.0	6.6	79.6	7.6	30.6	3.6	345.0	468.8
2. Assam	.	.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
3. Bihar	.	.	0.1	..	..	73.3	14.8	95.5	30.2	7.0	3.2	48.9	148.9	67.2	57.1	14.0	552.4
4. Gujarat*	92.7	..	21.7	1.0	67.3	108.7	91.1	32.3	33.3	275.3	723.3
5. Jammu and Kashmir	.	.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
6. Kerala	.	.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
7. Madhya Pradesh	.	.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
8. Madras	6.2	2.7	8.9	53.4	13.6	1.6	13.1	28.6	5.8	14.2	..	117.8	265.8
9. Maharashtra	.	.	0.7	..	32.1	1.3	44.5	17.5	28.9	2.9	36.7	63.8	23.5	21.7	0.6	198.3	472.5
10. Mysore	147.0	15.3	140.5	304.3	19.3	3.5	377.3	233.5	220.3	161.5	159.8	1,505.0	3,287.0
11. Orissa	66.7	17.5	155.2	62.5	13.6	14.0	73.1	155.0	123.0	108.1	9.2	467.0	1,262.4
12. Punjab	7.0	3.2	28.3	136.6	10.4	6.7	135.7	75.0	44.7	73.7	2.2	386.3	909.7
13. Rajasthan	17.7	5.7	256.3	44.7	12.3	5.7	215.7	239.3	160.3	63.3	1.0	622.7	1,651.3
14. Uttar Pradesh	.	.	1.8	..	15.8	0.06	61.7	93.4	12.4	4.0	50.8	28.3	27.4	15.8	7.9	212.5	532.2
15. West Bengal	.	.	2.5	..	208.1	8.2	61.7	272.4	18.4	5.2	111.6	196.6	125.1	48.6	25.1	570.4	1,653.9

Union Territories:

1. Andaman and Nicobar Islands	..	..	..	..	..	185.2	..	74.1	..	185.2	..	..	111.1	555.6
2. Delhi	..	..	..	..	..	2.0	178.5	15.5	10.0	61.0	13.5	0.5	99.5	308.5
3. Himachal Pradesh	..	..	..	..	..	494.1	..	235.3	294.1	..	1352.9	588.2	882.3	435.3
4. Manipur	..	..	..	..	..	61.6	32.3	26.4	29.3	..	5.9	44.0	58.7	26.4
5. Pondicherry	..	..	..	15.4	..	142.3	53.8	..	961.5	3.8	280.8	480.8	673.1	603.8
6. Tripura	..	..	..	..	..	242.0	..	32.0	18.3	..	4.6	36.5	59.4	18.3
													86.8	575.3

NOTE.—*Information relates to the period from 1-5-1960 to 31-12-1960.

+ Information not available.

.. Nil information.

Table 23

Case fatality rates among prisoners in the various States of India during the year 1960

State	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
		Cholera	Small-pox	Plague	Influenza	Enteric Fever	Malaria	Pyrexia of uncertain origin	T.B. (lung)	Pneumonia	Other respiratory diseases	Dysentery	Diarhoea	Anaemia and debility	Other diseases	All other causes	Total
1. Andhra Pradesh	0.4	..	7.8	20.0	9.1	1.5	..	10.5	5.6	1.0	2.3
2. Assam	.	.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
3. Bihar	0.3	0.2	0.3	15.8	3.1	0.2	0.8	0.4	1.7	..	0.5
4. Gujarat*	1.5	..	..	..	..	1.0	..	1.0	0.5
5. Jammu and Kashmir	.	.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
6. Kerala	.	.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
7. Madhya Pradesh	.	.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
8. Madras	4.2	..	0.1	0.8	7.1	3.4	0.2	1.0	1.6	..	2.6	1.6
9. Maharashtra	2.4	..	0.5	0.1	0.9	0.9	..	1.0	0.7
10. Mysore	0.1	..	..	..	..	..	0.1
11. Orissa	0.4	3.4	..	..	0.3	0.9	1.3	..	0.8	0.6
12. Punjab	2.4	..	0.1	2.3	1.2	0.1	0.1	0.2	0.1	..	0.2	0.2
13. Rajasthan	8.1	..	..	0.1	..	0.5	..	0.1	0.2
14. Uttar Pradesh	0.3	0.1	3.4	7.0	0.6	0.2	0.1	1.6	2.8	0.6	0.6
15. West Bengal	0.9	..	..	1.2	1.4	0.2	0.3	..	2.8	..	0.3	0.2

Table 24

Statement showing cause specific death rates per thousand of average daily population among prisoners in various States of India during the year 1960

States	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
		Cholera	Small-pox	Plague	Influenza	Enteric Fever	Malaria	Pyrexia of uncertain origin	T.B. (lung)	Pneumonia	Other Respiratory diseases	Dysentery	Diarhoea	Anaemia and debility	Other disease	All other causes	Total
1. Andhra Pradesh	0.2	..	1.6	0.2	0.6	1.2	..	3.2	0.2	3.4	10.6
2. Assam	.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
3. Bihar	.	0.2	..	..	..	..	0.1	0.1	0.1	1.1	0.1	0.1	1.2	0.3	1.0	..	2.6
4. Gujarat*	0.3	..	..	..	..	0.3	..	2.5	3.1
5. Jammu and Kashmir	.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
6. Kerala	.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
7. Madhya Pradesh	.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
8. Madras	0.1	..	0.1	0.1	0.1	0.4	0.1	0.1	0.2	..	3.1	4.3
9. Maharashtra	0.7	..	0.2	0.1	0.2	0.2	..	2.1	3.5
10. Mysore	0.3	..	..	..	..	..	0.3
11. Orissa	0.3	0.5	..	..	0.5	1.2	1.4	..	3.7	7.4
12. Punjab	0.1	..	0.1	0.2	0.1	0.2	0.1	0.1	0.1	..	0.8	1.7
13. Rajasthan	1.0	..	..	0.3	..	0.3	..	0.6	2.3
14. Uttar Pradesh	.	0.03	..	..	..	..	0.2	0.1	0.4	0.3	0.3	0.1	0.03	0.3	0.2	1.2	3.0
15. West Bengal	0.1	..	..	0.2	0.1	0.2	0.6	..	1.4	..	1.4	3.9

[illegible]

NOTE—*Information relates to the period from 1-5-1960 to 31-12-1960.

+Information not available.

..Nil information.

Table 25

Statement showing preventive health measures taken in different Jails of the various States of India during the year 1960

States	1	2	3	4	5	6	7	Quantity of quinine and other antimalarial drugs distributed (in lbs.)			
								Tablets	Injections	Powder (in lbs.)	D.D.T. sprayed (in lbs.)
		Anti-cho- lera ino- culation performed	Vaccina- tions per- formed	Anti-pla- gue ino- culation performed	Anti-ty- phoid ino- culation performed	BCG vaccina- tions per- formed	Others				
1. Andhra Pradesh . . .		+	+	+	+	+	+	+	+	+	+
2. Assam . . .		+	+	+	+	+	+	+	+	+	+
3. Bihar . . .		30,241	46,698	..	4,419	1,722	..	9,766	759	+	376
4. Gujarat*	6,459	..	..	..	96	2,404	104	+	205
5. Jammu and Kashmir : . .		+	+	+	+	+	+	+	+	+	+
6. Kerala . . .		+	+	+	+	+	+	+	+	+	+
7. Madhya Pradesh . . .		+	+	+	+	+	+	+	+	+	+
8. Madras . . .		66,465	80,342	..	39,050	48	..	4,050	195	10	482
9. Maharashtra . . .		13,797	64,017	..	..	176	..	56,249	939	38	807
10. Mysore	4,765	97	1,542	..	..	4,325	717	17	325
11. Orissa . . .		6,982	13,917	..	6,761	566	..	19,068	428	7	1,051
12. Punjab . . .		14,495	1,244	..	932	1	..	105,972	509	46	497
13. Rajasthan . . .		1,941	4,287	..	106	213	..	14,780	1,985	4	71

14. Uttar Pradesh	..	13,440	12,633	358	5,266	229	..	83,235	2,229	101	2,475
15. West Bengal	..	99,406	134,628	..	61,796	27	..	10,134	74	918	5,191
Union Territories :											
1. Andaman and Nicobar Islands.	..	..	..	..	..	..	..	..	..	30	+
2. Delhi.	..	+	+	+	+	+	..	500	18	3	..
3. Himachal Pradesh.	..	..	..	..	..	..	..	400	..	..	+
4. Manipur	..	420	408	..	420	..	..	1,000	50	1	48
5. Pondicherry	..	..	..	..	..	..	..	+	+	+	540
6. Tripura	..	1,733	1,733	..	..	..	..	575	69	2	+

NOTE.— * Information relates to the period from 1-5-1960 to 31-12-1960.

+ Information not available.

.. Nil information.

Table 26

UNICEF skim milk allocation to the various States of India during the year 1960-61

States/Union Territories	Maternity and Child Health Centres Allocated for 1960-61 (in pounds)	Schools Allocated for 1960-61 (in pounds)
1. Andhra Pradesh	500,000	312,500
2. Assam	150,000	55,000
3. Bihar	451,000	2,690,000
4. Delhi Municipal Corporation	80,000	..
5. Delhi (D. G. H. S.)	120,000	..
6. Gujarat :		
(i) Saurashtra	300,000	186,000
(ii) Ahmedabad Municipal Corporation . . . . .	..	200,000
7. Jammu and Kashmir	83,000	..
8. Kerala	2,800,000	500,000
9. Laccadive Islands	83,930	67,744
10. Madhya Pradesh	500,000	..
11. Madras	1,500,000	..
12. Maharashtra :		
(i) Old Bombay State	1,368,000	855,000
(ii) Vidarbha	156,000	..
(iii) Marathwada	49,000	110,000
(iv) Nagpur Municipal Corporation . . . . .	..	300,000
13. Manipur	76,000	..
14. Mysore	205,000	..
15. Orissa (MCH)	175,000	5,000,000
Orissa (Mahila Samiti)	800,000	..
16. Punjab	500,000	182,500
17. Rajathan	79,000	..
18. Sikkim . . . . .	..	72,000
19. Tripura	80,000	..
20. Uttar Pradesh	500,000	..
21. West Bengal	5,000,000	1,200,000
TOTAL	15,555,930	11,730,744
Total number of beneficiaries during 1960-61	696,000	1,017,000

NOTE.—: Nil information.

Table 27

Skim milk allocation to Maternity Child Health Centres and School feeding for the period 1st April, 1959 to 31st March, 1960

States/Union Territories	No. of beneficiaries		Allocation (in Pounds)	
	M. C. H. Centres	Schools	M. C. H. Centres	Schools
1. Andhra Pradesh . . .	37,388	41,413	900,000	600,000
2. Assam	2,000	6,585	50,000	140,000
3. Bihar	12,750	366,670	204,000	5,500,000
4. Bombay	70,735	144,810	1,605,100	1,108,000
5. Jammu and Kashmir . . .	3,822	24,341	100,000	350,000
6. Kerala	120,000	44,200	2,750,000	550,000
7. Madhya Pradesh	22,556	26,670@	564,000	400,000@
8. Madras	47,705	50,300	1,200,000	1,000,000
9. Mysore	13,935	..	350,000	..
10. Orissa	5,480	266,500	150,000	5,700,000
11. Orissa (Mahila Samities) .	38,000@	..@	450,000*	50,000
12. Punjab	30,000	20,000	600,000	..
13. Rajasthan	40,895	..	950,000	..
14. Uttar Pradesh	27,046	1,250@@	500,000	1,075,000
15. West Bengal	191,112	86,000	4,300,000	..
16. Andaman and Nicobar Islands	7,363	3,238	168,000	40,500
17. Delhi (Corporation) . . .	6,603	..	100,000	..
18. Delhi (D. G. H. S.) . . .	5,000	..	140,000	..
19. Himachal Pradesh	6,000@	7,300@	100,000@	110,000@
20. Laccadive Islands	1,800	2,700	41,000	37,500
21. Manipur	2,535	6,250	76,000	110,000
22. Pondicherry	1,200	5,460	30,000@	300,000
23. Tripura	5,200	..	125,000	23,490@@
TOTAL	699,125	1,103,687	15,453,100	17,034,490

NOTE.—@ Not confirmed.

@@ Pilot Scheme.

* Feeding only thrice a week.

.. Nil information.

Table 28

Consolidated annual report on the working of the Prevention of Food Adulteration Act, 1954 in the States/Union Territories in India during the year 1960

	No. of food samples examined	No. found adulterated	Percentage of adulteration	No. of prosecutions launched	No. of convictions	No. of acquittals	Number pending in courts	Number imprisoned	Total amounts of fines realised (in Rs.)
<i>I. States</i>									
1. Andhra Pradesh	.	.	49.6	1,768	367	5	1,384	12	28,853
2. Assam	.	.	53.3	..	..	..	..	..	..
3. Bihar	.	.	18.8	661	274	20	347	11	8,033
4. Gujarat	.	.	15.0	1,076	963	82	403	84	77,175
5. Kerala	.	.	27.5	1,252	890	233	..	..	68,412
6. Madhya Pradesh	.	.	47.4	626	396	27	232	3	54,907
7. Madras	.	.	28.8	4,099	1,310	11	2,755	23	104,801
8. Maharashtra	.	.	47.5	8,036	6,386	44	2,416	44	220,476
9. Mysore	.	.	35.3	817	582	75	499	2	28,080
10. Orissa	.	.	24.4	173	64	6	93	..	2,380
11. Punjab	.	.	25.6	4,354	3,173	402	3,782	59	296,468
12. Rajasthan	.	.	48.4	1,309	711	197	1,525	8	28,234
13. Uttar Pradesh	.	.	23.7	9,722	4,479	573	4,556	271	335,602
14. West Bengal	.	.	29.6	2,922	1,835	31	2,054	44	180,115

Table 29

Statement showing various types of samples of food examined, found adulterated and their corresponding percentages of adulteration in the different States/Union Territories in India during the year 1960

Description	1	2	3	4	5	6	7	8	9	10	11	12
			Andhra Pradesh	Assam	Bihar	Gujarat	Kerala	Madhya Pradesh	Madras	Maharashtra	Mysore	Orissa
Non-alcoholic beverages	.	No. examined No. found adulterated Percentage adulteration.	7 2 28.6	.. .. ..	31 3 9.6	26 12 46.2	85 53 62.3	13 11 84.6	28 10 35.7	351 92 26.2	9 4 44.4	1
Spices and Condiments	.	No. examined No. found adulterated Percentage adulteration	63 7 11.1	38 23 60.5	262 115 43.8	180 35 19.5	158 20 12.6	29 14 48.2	94 25 26.6	787 389 49.4	6 3 50.0	16 1 6.2
Sweetening Agents	.	No. examined No. found adulterated Percentage adulteration	.. .. ..	5 2 40	74 5 6.7	37 20 54.1	87 16 18.4	26 15 57.6	5	133 101 76	22 13 69.1	12
Tea, Coffee, Cocoa and Chicory	.	No. examined No. found adulterated Percentage adulteration	219 15 6.8	92 46 49	34 6 17.6	179 36 20	1,824 208 11.4	8 4 50	1,027 71 7.0	320 73 22.8	317 42 13.2	3
Milk	.	No. examined No. found adulterated Percentage adulteration	1,904 1,440 75.6	321 245 76.3	281 105 37.3	8,033 1,198 14.1	1,845 871 47.2	1,724 840 48.7	7,694 3,518 45.7	10,110 5,524 54.6	1,920 940 48.9	114 51 45
Butter, Ghee, Ice-cream and other milk products.	.	No. examined No. found adulterated Percentage adulteration	260 119 48.8	42 17 40.4	227 87 38.3	533 66 12.4	235 74 ..	530 257 48.4	1,755 268 15.3	1,608 791 49.1	550 123 22.3	108 75 69.4
Edible oils and fats and Vanaspati	.	No. examined No. found adulterated Percentage adulteration	612 92 15.0	217 51 23.5	2,232 346 15.5	322 30 9.4	1,107 46 4.1	243 81 33.3	3,271 252 7.7	2,202 332 15.1	314 6 1.9	520 57 10.9
Fruit products	.	No. examined No. found adulterated Percentage adulteration	.. .. ..	.. .. ..	.. .. ..	23....	......	......	......	......	......	......
Cereals and Cereal Products and pulses	.	No. examined No. found adulterated Percentage adulteration	343 63 18.4	64 15 25	643 52 8	24	880 368 41.8	56 21 37.5	464 47 10.1	300 200 66.7	40 2 5.0	166 34 20.5
Any miscellaneous articles of food	.	No. examined No. found adulterated Percentage adulteration	154 30 19.5	67 52 77.6	150 24 16	135 26 19.2	19 11 57.8	355 40 11.3	892 487 54.6	52 7 13.4	54 23 42.6

NOTE—.. Nil information.

Table 29—contd.

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Description	Examined	1										2										Central Food Laboratories
		Punjab	Rajasthan	Uttar Pradesh	West Bengal	Delhi	Himachal Pradesh	Manipur	Tripura	19	20	21	13	14	15	16	17	18	19	20	21	
Non-alcoholic beverages	No. examined No. found adulterated Percentage adulteration	162 61 37.7	19 7 36.8	216 97 45		91 59 64.8	.. .. ..	.. .. ..	.. .. ..												6 4 66.6
Spices and Condiments	No. examined No. found adulterated Percentage adulteration	1,338 330 24.7	279 92 32.9	1,598 226 14		388 170 43.8	11 6 55	.. .. ..	.. .. ..												33 26 78.8
Sweetening Agents	No. examined No. found adulterated Percentage adulteration	81 26 32.1	93 53 55.9	345 53 15		127 75 59.1	4 3 75	.. .. ..	.. .. ..												8 6 75
Tea, Coffee, Cocoa and Chicory	No. examined No. found adulterated Percentage adulteration	298 23 7.7	15 5 33.3	65 3 5		39 3 7.7	7 5 71	.. .. ..	.. .. ..												24 10 41.7
Milk	No. examined No. found adulterated Percentage adulteration	10,721 3,046 38.3	1,425 861 60.4	10,996 3,232 29		2,471 1,238 50.1	62 55 88.8	.. .. ..	11 7 66.6												84 57 68
Butter, Ghee, Icecream and other milk products.	No. examined No. found adulterated Percentage adulteration	1,762 222 12.6	832 362 43.5	4,619 833 18		696 273 39.2	25 8 32	.. .. ..	8 5 62.5												53 42 79.2
Edible oils and fats and Vanaspati	No. examined No. found adulterated Percentage adulteration	529 61 11.5	267 65 24.3	5,272 734 14		149 21 14.1	7 2 28.6	.. .. ..	68 26 38.2												38 29 76.3
Fruit products	No. examined No. found adulterated Percentage adulteration	7 3 42.9	.. .. ..	3		116 72 62.1	.. .. ..	.. .. ..	.. .. ..												.. .. ..
Cereals and Cereal Products and Pulses	No. examined No. found adulterated Percentage adulteration	465 109 23.4	30 9 30	1,629 169 10		28 3 10.7	14 7 50	.. .. ..	.. .. ..												16 11 68.7
Any miscellaneous articles of food	No. examined No. found adulterated Percentage adulteration	645 218 33.8	122 39 31.9	1,923 961 50		276 189 68.5	13 1 7.7	.. .. ..	.. .. ..												11 11 100

Break up not received

NOTE.—... Nil information.

Table 30

Number of Hospitals, Dispensaries, beds available for in-patients and number of beds reserved for T. B. in Railways during the years 1960 and 1959

Category of Institutions	Central Railway		Northern Railway		Southern Railway		Eastern Railway		Western Railway		North Eastern Railway		South Eastern Railway		Chittaranjan Locomotive Works		North Eastern Frontier Railway	
	1960	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960	1959
1. Number of Hospitals	11	10	9	9	10	10	8	8	14	10	8	4	9	8	1	1	7	9
Beds available	638	517	595	595	755	655	968	789	590	246	603	448	444	424	70	70	266	287
2. No. of Dispensaries	59	55	88	86	75	73	94	68	66	65	44	37	57	57	6	6	66@	54
Beds available	60	49	254	248	77	58	94	94	110	111	45	45	7	7	..	..	48	21
3. No. of Sanatoria Clinics	..	..	6	6	8	8	10	10	9	8	5	5	2	2	..	..	6	6
Beds available	..	..	20	20	67	66	113	40	22	12	65	65	15	15	..	..	10	10
4. No. of other Institutions	..	..	..	..	19	17	10	10	..	..	..	..	..	..	..	..	..	..
Beds available	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5. No. of T. B. beds (reserved for railway staff in other sanatoria)	145	145	196	186	207	207	240	230	85	65	53	53	125	101	12	12	59	24

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NOTE.—... Nil information.

@ Including 2 Mobile Dispensaries.

Table 31

Number of Maternity and Child Welfare Centres along with the number of beds and staff employed therein together with the work done during the years 1960 and 1959

Railways	Years	Staff employed in the M.C.W. Centres										Work done in the M.C.W. Centres					
		No. of M.C. Centres	No. of beds	Supervisory	Nurses	Mid-wives	Dais	Health visitors	Ayahs	Pre-natal visits	Ante-natal visits	Infant visits	No. of labour cases attended	No. of deliveries conducted	Attendance at the Centres	Mothers' Classes, if any, held.	
1. Central	1960	4	41	1	1	11	..	2	1	329	2,689	400	572	987	6,297	..	
	1959	3	18	..	1	8	..	1	2	435	6,343	80	572	1,032	12,035	..	
2. Northern	1960	..	..	13	105	59	..	..	..	6,736	7,496	15,561	1,337	1,343	28,988	23
	1959	..	..	12	97	61	..	..	..	11,691	9,852	17,049	1,678	1,085	45,934	390
3. Southern	1960	19	40	6	31*	..	13@	5	..	15,102	31,473	21,809	3,988	3,488	1,13,953	71	
	1959	17	31	6	31*	..	13@	5	..	19,240	42,123	24,548	3,492	2,939	1,39,026	110	
4. Western	1960	20	76	..	..	41	38	10x	..	7,792	9,441	8,164	4,082	3,801	13,858	217
	1959	20	78	..	..	37	34	10x	34	1,813	4,842	4,068	3,363	3,259	111,66	93
5. Eastern	1960	32	..	12	232	45	..	6	..	3,794	5,400	+	+	+	+	+	
	1959	32	..	11	184	45	..	6	..	38,630	51,696	85,485	4,094	3,119	40,054	436	
6. North Eastern	1960	25	78	5	10	25	1	2	..	1,429	1,328	1,392	1,694	2,423	10,729	104	
	1959	23	78	5	10	23	1	2	..	1,233	2,278	1,212	1,327	1,689	7,794	104	
7. South Eastern	1960	33	..	..	..	54	..	2	..	10,575	10,616	10,280	3,532	3,328	12,424	2,137
	1959	32	..	..	..	53	..	1	..	6,868	5,341	6,314	3,264	2,363	6,683	1,770
8. North East Frontier.	1960	5	23	2	57	29	..	..	..	6,773	6,413	5,898	2,974	1,968	3,528	..
	1959	5	20	2	56	28	..	..	..	8,789	8,663	6,314	2,191	21,191	2,384	..
9. Chittaranjan Locomotive works	1960	1	..	..	..	2	..	..	2	+	+	2,136	+	+	2,584	..
	1959	1	..	..	..	2	..	..	2	+	+	2,013	+	+	2,637	..

* Vacant posts.

× Includes Mid-wives also.

+ Information not available.

.. Nil information.

@ Includes Ayahs also.

Table 32

Medical and Health staff employed in Railways during the years 1960 and 1959

Railways	Medical Superior Services		Assistant Surgeons		Nursing staff		Compoun- ders		Other staff	
	1960	1959	1960	1959	1960	1959	1960	1959	1960	1959
1. Central . . .	22	21	185	178	189	199	140	141	977	872
2. Northern . . .	23	23	220	213	177	170	191	183	1,379	1,225
3. Southern . . .	21	21	218	204	203	184	198	192	172	165
4. Western . . .	24	20	244	222	228	185	213	205	1,191	959
5. Eastern . . .	22	21	192	176	295	246	117	118	1,216	1,156
6. North-Eastern . .	16	14	92	90	130	126	84	84	2,605	2,520
7. South Eastern . .	19	19	178	166	167	160	87	84	358	348
8. North East Fron- tier.	16	15	119	114	59	58	110	102	594	545
9. Chittaranjan Lo- comotive Works	1	1	17	17	20*	21	13	12	1	1

NOTE.—*The fall in number is due to the resignation of one of the Nurses and the vacancy thus caused had remained unfilled.

Table 33

Annual expenditure incurred by different Railways on medical and public health departments during the years 1959-60 and 1960-61

Railways	Medical		Public Health		Total (Medical & Public Health)	
	1959-60	1960-61	1959-60	1960-61	1959-60	1960-61
(Rupees in thousands)						
1. Central . . .	4,895	5,532	4,258	4,404	9,153	9,936
2. Northern . . .	5,529	6,225	5,323	5,984	10,852	12,209
3. Southern . . .	4,544	5,405	2,668	3,103	7,212	8,508
4. Western . . .	4,628	6,224	2,499	3,125	7,127	9,349
5. Eastern . . .	5,138	7,039	4,069	4,776	9,207	11,815
6. North Eastern . .	2,635	3,219	2,272	2,543	4,907	5,762
7. South Eastern . .	3,261	4,035	3,101	3,119	6,362	7,154
8. North East Frontier . .	2,687	3,337	2,733	3,138	5,420	6,475
9. Chittaranjan Locomotive Works	503	668*	135	74*	638	742*
TOTAL . .	33,820	41,684	27,058	30,266	60,878	71,950

NOTE.—* Upto February, 1961.

Table 34

Cases and deaths due to certain causes recorded in Hospitals under different Railway Administrations in India during the years 1960 and 1959

Railways	Years	Cholera		Small-pox		Plague		Dysentery and Diarrhoea		Malaria		Enteric fever	
		C	D	C	D	C	D	C	D	C	D	C	D
1. Central	1960	10	4	151	1	..	..	88,503	33	3,852	..	869	17
	1959	3	..	171	3	..	..	81,752	25	23,706	1	948	29
2. Northern	1960	5	1	507	16	..	..	1,73,570	39	18,915	2	3,691	22
	1959	1	1	220	10	..	..	1,59,858	22	29,631	3	3,224	55
3. Southern	1960	1	1	109	4	..	..	1,17,420	24	662	..	519	13
	1959	6	..	229	7	..	..	1,20,664	30	2,473	1	783	7
4. Western	1960	1	..	224	9	..	..	1,22,962	5	21,900	3	2,225	7
	1959	5	1	287	..	..	..	1,08,791	7	56,320	3	1,112	3
5. Eastern	1960	7	1	8	..	..	..	61,726	..	64	..	2,911	15
	1959	14	3	35	2	..	..	83,454	6	102	..	2,792	10
6. North Eastern	1960	2	1	23	1	..	..	60,580	25	1,132	..	1,093	5
	1959	4	..	30	1	..	..	46,140	1	3,143	..	1,163	3
7. South Eastern	1960	12	7	30	4	..	..	1,40,215	13	443	..	2,256	2
	1959	12	..	187	12	..	..	1,15,224	10	554	..	1,636	4
8. North East Frontier	1960	8	2	12	1	..	..	92,900	28	1,031	6	444	2
	1959	..	..	8	..	..	..	82,178	9	1,861	12	487	2
9. Chittaranjan Locomotive works.	1960	1	1	..	..	..	..	13,002	7	12	..	42	3
	1959	..	..	4	1	..	..	9,623	15	29	..	122	1

NOTE.—: Nil information.

C—Cases; D—Deaths.

Railways	Years	Other Fevers		T. B. (all forms)				Leprosy				Injuries				Other causes		Total	
		C		D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	
1. Central	.	1960	1,56,017	18	3,355	78	77	..	49,601	46	4,30,477	263	7,32,912	460					
	.	1959	1,49,905	47	2,797	88	55	..	57,475	52	4,38,907	209	7,55,719	454					
2. Northern	.	1960	1,31,339	22	3,635	64	21	..	1,50,806	24	15,63,038	138	20,45,527	328					
	.	1959	1,12,083	31	2,704	39	27	1	1,06,977	14	12,62,712	212	16,77,437	388					
3. Southern	.	1960	2,49,346	33	3,448	51	293	..	1,52,081	12	9,57,273	91	14,81,152	229					
	.	1959	2,02,483	17	2,673	46	254	1	1,40,274	19	9,76,016	276	14,45,855	404					
4. Western	.	1960	48,931	12	1,773	48	32	1	1,12,020	27	10,25,713	145	13,35,781	257					
	.	1959	37,765	7	1,590	48	33	1	1,10,357	13	9,57,894	166	12,74,154	249					
5. Eastern	.	1960	33,593	..	1,070	42	33	..	37,932	..	2,05,618	81	3,42,962	139					
	.	1959	39,794	14	1,472	46	58	2	47,045	17	4,39,678	100	6,14,444	200					
6. North Eastern	.	1960	54,118	36	1,617	31	51	..	18,104	14	3,89,171	163	5,25,891	276					
	.	1959	53,206	12	1,398	34	59	..	21,168	..	3,76,853	106	5,03,164	157					
7. South Eastern	.	1960	1,32,327	7	2,071	36	50	..	61,264	2	7,11,297	74	10,49,965	145					
	.	1959	1,32,322	5	1,939	88	37	..	61,810	9	6,20,120	37	9,33,841	165					
8. North East Frontier	.	1960	92,557	11	461	15	63	3	21,815	6	4,83,216	115	6,92,507	189					
	.	1959	72,985	10	392	15	15	..	22,220	11	3,57,083	74	5,37,179	133					
9. Chittaranjan Works.	Locomotive	1960	5,964	3	76	3	13	..	2,267	..	62,028	72	84,005	89					
		1959	5,964	8	79	1	11	..	2,167	1	63,045	41	81,044	68					

NOTE.—C—Cases; D—Deaths.

.. Nil information.

TABLE 35

Anti-cholera inoculations, smallpox vaccinations etc., together with other preventive measures undertaken in different Railway Administrations during the years 1960 and 1959

Railways		Years	Anti-cholera inoculations per-formed	Smallpox vaccinations performed		Anti-plague inoculations per-formed	Anti-typhoid inoculations per-formed	No. of B. C. G. vaccinations per-formed	Others
				Primary	Re-vaccinations				
1. Central	.	1960	29,404	10,912	64,843	75,755	1,166	266	234
	.	1959	25,441	9,586	51,921	61,507	1,750	..	210
2. Northern	.	1960	26,045	9,847	53,319	63,166	4,350	..	524
	.	1959	6,886	6,391	30,643	37,034	3,155	..	1,324
3. Southern	.	1960	5,884	8,413	57,443	65,856	2,980	28	256
	.	1959	9,122	8,724	39,405	48,129	2,672	192	230
4. Western	.	1960	6,138	4,365	11,092	15,457	578	..	113
	.	1959	20,778	4,838	8,068	12,906	1,081	..	28
5. Eastern	.	1960	18,272	4,935	73,462	78,397	6,964	..	7,962
	.	1959	21,106	4,209	1,03,033	1,07,242	16,536	..	16,532
6. North Eastern	.	1960	31,224	4,132	25,989	30,121	2,963	..	4
	.	1959	12,160	5,230	26,364	31,594	3,856	..	1,313
Sout Eastern	.	1960	47,270	10,578	1,68,049	1,78,627	15,307	..	161
	.	1959	31,389	9,951	1,72,578	1,82,529	8,441	..	291
8. North East Frontier	.	1960	39,668	7,098	96,562	1,03,660	29,802	..	489
	.	1959	22,272	8,572	1,01,014	1,09,586	13,707	..	718
9. Chittaranjan Locomotive Works	.	1960	47	632	10,037	10,669	3	..	1,216
	.	1959	168	727	11,182	11,909	339	..	5,006

Table No. 35

Anti-cholera inoculations, smallpox vaccinations etc., together with other preventive measures undertaken in different Railway Administrations during the years 1960 and 1959—concl'd.

Railways	Years	Quantity of quinine and other anti-malaria distributed			Anti-malarial operations performed				
		Powder (in lbs.)	Tablets	Injections	No. of anti-malaria units working	No. of anti-malarial surveys if any	No. of houses sprayed	Quantity of DDT used (in lbs.)	Other measures in quantitative terms (in lbs.)
1. Central	. . . . .	9	2,24,649	8,248	25	..	39,203	21,216	..
	1959	20	2,70,531	10,917	29	..	33,182	10,059	..
2. Northern	. . . . .	45	1,56,736	6,007	49	3	66,554	35,095	459
	1959	89	1,91,822	7,787	47	3	65,077	25,396	799
3. Southern	. . . . .	38	12,994	2,527	7	..	27,660	18,786	..
	1959	45	27,547	2,208	6	..	23,468	13,069	..
4. Western	. . . . .	59	1,48,500	19,550	38	..	60,628	24,616	1,749
	1959	84	2,79,700	11,950	36	..	45,560	11,914	2,049
5. Eastern	. . . . .	..	2,098	..	12	..	62,360	35,325	..
	1959	..	44,000	..	16	..	37,465	26,954	..
6. North Eastern	. . . . .	20	34,062	87	6	..	46,825	16,324	2,210
	1959	12	67,344	329	6	2	26,479	10,025	2,363
7. South Eastern	. . . . .	2	5,200	11	36	..	99,142	45,800	4,368
	1959	12	98,300	160	28	1	87,977	48,323	4,522
8. North East Frontier	. . . . .	18	55,439	906	14	..	32,641	15,433	3,115
	1959	4	39,807	681	22	..	30,189	13,728	1,224
9. Chittaranjan Locomotive Works	. . . . .	..	..	..	1	..	15,721	3,397	..
	1959	..	..	..	1	..	13,195	4,650	..

NOTE. — . . Nil information.

Table 36

Statement showing number of hospitals, dispensaries and beds in rural and urban areas and patients treated (indoor and outdoor) and deaths among inpatients in various States of India during the year 1960

1	2	Rural			Urban			Total			Patients treated			14
		Hospi- tals	Dis- pensa- ries	Beds	Hospi- tals	Dis- pensa- ries	Beds	Hospi- tals	Dis- pensa- ries	Total medical institu- tions (Hospi- tals and Dispen- saries)	Total Beds	In- door	Out- door	Deaths (in-door)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
1. States														
1. Andhra Pradesh	115	295	+	101	50	+	216	345	561	21,661	989,344	33,534,835	+	
2. Assam	16	474	484	42	69	2,001	58	543	601	2,485	48,514	2,588,844	+	
3. Bihar**	142	632	1,404	77	79	3,575	219	711	930	4,979	591,000	4,551,000	+	
4. Gujarat	23	522	1,935	91	60	6,271	114	582	696	8,206	460,018	7,693,506	3,392	
5. Jammu and Kashmir	11	136	1,309	13	12	1,520	24	148	172	2,829	+	+	+	
6. Kerala	+	+	+	+	+	+	+	+	389	13,006	515,763	11,779,574	11,000	
7. Madhya Pradesh	249	456	3,800	233	72	9,788	482	528	1,010	13,588	1,216,064	13,925,177	1,496	
8. Madras	186	463	+	139	114	+	325	577	902	22,188	861,496	27,409,908	21,155	
9. Maharashtra	20	450	+	301	958	+	321	1,408	1,729	25,068	597,042	12,644,656	10,903	
10. Mysore	97	648	3,876	89	84	9,910	186	732	918	13,786	413,897	14,572,727	10,209	
11. Orissa	+	+	+	+	+	+	156	367	523	+	161,608	7,048,259	4,595	
12. Punjab	+	+	+	+	+	+	+	+	828	10,984	262,292	8,865,875	6,099	
13. Rajasthan	+	+	+	+	+	+	+	+	769	9,851	216,332	11,025,597	4,645	
14. Uttar Pradesh**	105	738	5,813	311	174	13,115	416	912	1,328	18,928	481,911	15,218,231	15,117	
15. West Bengal	+	+	+	+	+	+	+	+	2,394	27,611	83,988	6,237,206	14,449	

1. Andaman and Nicobar Islands	6	29	190	1	4	218	7	33	40	408	9,751	124,414	153
2. Delhi*	4	9	49	15	35	1,556	19	44	63	1,605	39,306	4,941,126	+
3. Himachal Pradesh	+	+	+	+	+	+	22	77	99	1,243	311,593	2,523,795	294
4. Laccadive Islands@	1	6	20	..	..	..	1	6	7	20	+	189,780	+
5. Manipur	12	75	130	5	1	304	17	76	93	434	3,576	1,11,688	31
6. Pondicherry	1	28	+	7	6	+	8	34	42	784	20,570	2,62,437	+
7. Tripura	..	89	46	7	9	243	7	98	105	289	51,273	1,120,247	292
Total	988	5,050	19,056	1,432	1,667	48,501	2,598	7,221	14,199	1,99,953	8,166,852	191,604,439	103,830

NOTE.—* Functioning under Municipal Corporation, Delhi.

@ There is no urban area in this Union Territory.

** Information relates to the year 1959.

+ Information not available.

.. Nil information.

Table 37

Statement showing the number of beneficiaries, dispensaries, etc., under Contributory Health Service Scheme during the years 1954 to 1960

Description	Years						
	1954	1955	1956	1957	1958	1959	1960
1. Number of beneficiaries	2,23,000	2,73,000	3,20,128	4,04,800	4,27,500	4,56,000	4,49,270
2. Number of dispensaries (static)	16	18	19	21	26	34	38
3. Number of dispensaries (mobile) . . . . .	..	3	3	3	3	4	4
4. Attendance at the C. H. S. Dispensaries	7,37,572	23,14,678	29,62,265	32,50,930	37,14,981	40,75,479	47,43,968
5. Health Check-up Clinics							
(i) Cases registered . . . . .	..	..	..	..	..	2,416	2,658
(ii) Cases examined . . . . .	..	..	..	..	..	600	3,060
6. No. of Medical Officers							
(i) Assistant Surgeon, Grade I	29	69	69	96	151	195	195
(ii) Specialists	11	20	20	20	30	33	33

NOTE.— .. Nil information.

Table 38

Statement showing the number of visits paid by the Medical Officers of the various dispensaries under the C.H.S.S. during the year 1960

Months	Medical Officers maintaining car/ motor cycle		Medical Officers maintaining no vehicle		Grand total	
	No. of visits	Average No. of visits per Medical Officer	No. of visits	Average No. of visits per Medical Officer	No. of visits	Average No. of visits per Medical Officer
1	2	3	4	5	6	7
1. January .	2,718	45.3	3,046	38.1	5,764	41.2
2. February .	2,371	39.5	2,120	26.2	4,491	31.9
3. March .	2,354	36.8	2,112	25.6	4,466	30.4
4. April .	2,951	44.7	2,485	30.7	5,436	37.0
5. May .	2,976	44.4	2,585	31.9	5,561	37.6
6. June .	2,571	37.3	2,014	25.8	4,585	31.2
7. July .	2,907	40.4	2,305	29.9	5,212	35.0
8. August .	3,275	45.5	2,838	37.3	6,113	41.3
9. September .	2,923	40.0	2,429	32.0	5,352	35.9
10. October .	3,004	40.6	2,406	30.8	5,410	35.6
11. November .	2,479	33.1	2,141	25.8	4,620	29.0
12. December .	2,939	38.2	2,428	28.6	5,367	33.1
TOTAL .	33,468	487.7 (40.6)	28,909	361.4 (30.1)	62,377	418.6 (34.9)

NOTE.—Figures within brackets show the average number of visits per Medical Officer per month.

Table 39

Number of patients examined by the various Specialists under the C.H.S.S. during the year 1960

Months	Eye	Surgical	Lady Staff Surgeon	Medical	Dental	E.N.T.	Children	Psychiatry	Skin	Total
1. January	.	2,635	1,996	963	3,319	1,966	1,878	601	..	13,358
2. February	.	3,497	2,181	1,132	3,433	2,428	2,305	700	205	15,994
3. March	.	4,470	3,138	1,337	4,698	3,344	3,290	1,095	1,286	22,908
4. April	.	3,474	2,233	1,015	3,295	2,728	2,670	842	1,616	18,095
5. May	.	4,084	2,528	1,052	3,403	2,994	3,325	794	1,715	20,182
6. June	.	4,557	2,389	1,116	3,305	3,228	2,944	774	1,902	20,553
7. July	.	4,167	2,422	1,272	3,657	3,122	3,115	869	1,927	20,857
8. August	.	4,433	3,186	1,358	4,072	2,764	3,636	1,009	2,206	23,094
9. September	.	4,356	2,418	1,300	3,663	2,813	3,656	873	2,294	21,753
10. October	.	4,120	2,359	1,113	3,882	2,509	3,301	757	2,314	20,810
11. November	.	4,265	2,592	1,336	4,155	2,923	3,507	699	2,510	22,393
12. December	.	4,116	2,371	1,172	3,917	2,833	3,079	491	2,377	20,725
TOTAL	.	48,174	29,813	14,166	44,799	33,652	36,706	9,504	20,352	2,40,722
Weekly Average	.	926	573	272	862	647	706	183	473	4,716

NOTE—Nil information.

Table 40

Number of patients treated due to various causes of sickness in the various dispensaries under the Contributory Health Service Scheme during the year 1960

Months	Tuberculosis		Ty- phoid (ente- ric group)	Diph- theria	Whoop- ing cough	Measles	Mumps	Ma- laria	Filaria- sis, Ankylo- stomia- sis and other Helmin- thiasis	Dia- betes	Avita- mianosis and other defici- ency states	Anae- mias	Asthma	
	Respi- ratory	others												
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
1. January	.	139	101	249	5	223	66	298	7	328	179	4,182	1,465	658
2. February	.	117	95	226	2	189	128	289	10	393	95	4,301	1,462	422
3. March	.	133	97	190	3	270	294	352	29	388	118	4,326	1,786	452
4. April	.	127	77	221	3	244	429	329	23	420	121	4,451	1,787	415
5. May	.	117	56	196	9	231	394	385	17	312	174	4,595	1,607	444
6. June	.	130	112	329	8	273	245	395	2	418	116	4,421	1,751	391
7. July	.	171	86	310	8	239	115	321	11	415	102	5,842	2,033	469
8. August	.	136	103	300	13	109	100	236	9	400	102	5,917	2,644	494
9. September	.	123	91	392	16	207	63	191	12	397	121	6,184	2,163	529
10. October	.	148	83	384	24	239	40	255	34	425	101	5,681	2,131	650
11. November	.	204	86	247	13	296	39	138	41	402	336	5,605	1,875	676
12. December	.	147	131	182	6	454	43	164	32	443	168	5,389	1,969	514
TOTAL	.	1,692	1,118	3,326	110	2,974	1,956	3,353	227	4,741	1,733	60,894	22,673	6,114
Incidence per mille of bene- ficiaries.		3.77	2.49	7.18	0.24	6.62	4.35	7.46	0.51	10.55	3.86	135.55	50.47	13.61

NOTE.— No. of beneficiaries—449,270.

Table 40—contd.

Months	Diseases of eye				Hypertension		Diseases of respiratory system					
	Allergic disorders & metabolic and blood diseases	Mental diseases	Trachoma	Others	Otitis media and mastoiditis	With heart disease	Without heart disease	Acute upper respiratory infections	Influenza	Acute bronchitis	Chronic bronchitis	Hypertrophy of tonsils
1	15	16	17	18	19	20	21	22	23	24	25	26
1. January	.	.	735	3,361	1,995	22	271	26,609	823	2,085	2,977	2,819
2. February	.	.	787	3,645	1,935	42	276	22,043	326	1,959	2,373	2,971
3. March	.	.	873	3,933	1,862	51	244	19,242	149	2,207	1,763	3,096
4. April	.	.	1,013	4,395	1,773	31	210	18,512	114	1,977	1,361	2,652
5. May	.	.	987	4,221	1,716	15	206	19,193	98	1,701	1,922	2,210
6. June	.	.	907	4,159	1,819	29	184	17,052	62	1,506	2,023	2,597
7. July	.	.	1,089	4,930	2,792	21	261	22,815	96	1,577	2,288	2,899
8. August	.	.	1,248	5,630	3,084	26	202	21,653	60	1,789	2,262	3,170
9. September	.	.	1,189	5,647	2,656	23	262	23,348	63	2,137	2,237	3,165
10. October	.	.	1,300	5,015	2,561	148*	950	24,002	136	2,269	2,657	3,284
11. November	.	.	1,146	4,309	2,577	47	353	21,751	52	2,281	2,228	2,957
12. December	.	.	1,066	4,382	2,592	45	229	24,925	79	2,471	2,645	2,923
TOTAL	25,101	192	12,340	53,627	27,362	500	3,648	2,61,145	2,058	23,959	26,736	34,743
Incidence per mille of beneficiaries	55.87	0.43	27.47	119.37	60.90	1.11	8.12	581.13	4.58	53.33	59.51	77.33

NOTE.—No. of beneficiaries—449,270.

Table 40—contd.

Months	Diseases of respiratory system (contd.)			Diseases of digestive system				Diseases of liver		Diseases of Genito-urinary system
	Other respiratory	Streptococcal sore throat	Teeth and gum	Gastro-enteritis and Colitis	Dysentery (all forms)	Others	Infective Hepatitis	Others (including Cirrhosis, Cholelithiasis etc.)		
1	27	28	29	30	31	32	33	34	35	
1. January	2,294	3,706	3,024	1,310	3,696	7,027	28	3	2,204	
2. February	2,151	3,847	2,703	1,553	3,302	7,585	33	2	1,999	
3. March	1,881	3,376	3,269	1,687	5,080	9,082	25	4	2,103	
4. April	1,762	2,842	2,960	1,779	6,376	9,952	38	3	2,104	
5. May	1,702	3,097	2,986	1,951	5,585	8,676	51	..	1,895	
6. June	1,513	2,508	3,184	1,742	5,190	8,308	67	4	1,797	
7. July	2,475	2,548	3,871	2,057	7,255	12,521	58	7	2,078	
8. August	1,987	3,013	4,174	2,926	10,018	15,066	67	6	3,159	
9. September	2,771	3,085	4,104	2,461	7,302	11,320	54	11	2,726	
10. October	3,182	2,929	3,801	1,388	6,118	11,042	88	8	2,528	
11. November	2,658	2,196	3,323	1,514	5,473	8,897	94	13	2,303	
12. December	2,881	2,803	3,661	1,628	5,545	9,529	72	9	2,503	
TOTAL	27,257	35,950	41,060	21,996	70,940	1,19,005	675	70	27,219	
Incidence per mille of beneficiaries	60.67	80.02	91.39	48.96	157.91	264.95	1.50	0.15	60.59	

NOTE.—No. of beneficiaries = 449,270.

Table 40—contd.

Months	Diseases of skin and muscle skeletal system					Accidents, poisoning and violence				
	Pregnancy	Complica- tions of pregnancy, child birth and puerperi- um	Scabies	In- fection of skin	Rheuma- tism, muscular and others	Others	Fractures, disloca- tions, sprains and strains	Injuries	Wounds	Others
1	36	37	38	39	40	41	42	43	44	45
1. January
2. February
3. March
4. April
5. May
6. June
7. July
8. August
9. September
10. October
11. November
12. December
TOTAL
Incidence per mille of bene- ficiaries.	324.09†	332.16†	10.29	210.72	83.79	169.52	7.87	142.11	67.24	20.02

NOTE.—†Calculated per 1000 deliveries.

*Per thousand married women under the scheme.

No. of beneficiaries=449,270.

Table 41

Statement showing Blood Banks, volume of blood (in litres) collected etc., in the various States/Union Territories during the year 1960

States/Union Territories	No. of Blood Banks	Vol. of blood (in litres) collected				Vol. of blood donated (in litres)	No. of blood transfusions given	Quantity of Plas/ Serum prepared (in litres)
		Voluntary donors	Paid donors	3	4			
1	2	3	4	5	6	7		
Andhra Pradesh	15*	1,219.8	4,615.1	5,827.9	7,937	..		
Assam	1	27.9	186.9	214.8	176	..		
Bihar	2	1,149.2	1,187.3	597.6	9,555	..		
Gujarat	3	381.1	673.5	691.6	3,680	+		
Jammu and Kashmir	2	373.3	416.8	790.0	476	..		
Kerala	8†	762.7	2,372.2	2,798.6	4,890	..		
Madras	31	8,316.0@	+	8,316.0	12,397	267.5		
Madhya Pradesh	4	170.1	1,002.0	1,149.6	4,690	83.3		
Maharashtra	21	2,905.2	40,541.5	48,835.4	25,304	1,001.3		
Mysore	6	72.9	2,681.0	2,660.6	2,964	..		
Orissa	1	..	484.3	0.3	+	..		
Punjab	4	1,830.3	5,108.7	2,980.8	6,559	5.6		
Rajasthan	4	700.4	765.0	2,177.0	4,927	..		

Table 41—contd.

1	2	3	4	5	6	7
Uttar Pradesh	3	827.6	15,582.4	16,358.0	11,117	5.0
West Bengal	1	8.8	7,840.8	57,878.5	2,995	114.8
Andaman and Nicobar Islands	..	..	..	..	..	..
Delhi	2	13.2	1,578.9	935.1	7,311	..
Himachal Pradesh	1	60.6	2.5	..	204	..
Laccadive Islands	..	..	..	..	..	..
Manipur	1	170.0	165.0	165.0	320	..
Pondicherry	1	50,700.0	84,600.0	133,200.0	438	..
Tripura
TOTAL	111	23,906.1	169,803.9	285,576.8	105,940	1,477.5

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NOTE.—+ Information not available.

*Information relates to 5 Blood Banks only.

†Information relates to 7 Blood Banks only.

@Information relates to voluntary and paid donors combined.

.. Nil information.

Table 42

Statement showing the names of Mental Hospitals and their locations along with their ownership status, years of establishment, functioned in the various States/Union Territories during the year 1960

States/Union Territories	Names of Mental Hospitals and their locations	Ownership status	Years of establishment
1	2	3	4
1. Andhra Pradesh	(i) Hospital for Mental Diseases, Hyderabad.	State Govt.	1952
	(ii) Government Mental Hospital, Waltair (Visakhapatnam District).	State Govt.	1863
2. Assam . . .	(i) Mental Hospital, Tezpur . . .	State Govt.	1878
3. Bihar . . .	(i) Hospital for Mental Diseases, Kanke (Ranchi).	Central Govt.	1918
	(ii) Ranchi Mansik Arogyashala, Kanke (Ranchi).	State Govt.	1925
4. Gujarat . . .	(i) Mental Hospital, Ahmedabad . . .	State Govt.	1863
	(ii) Mental Hospital, Baroda . . .	State Govt.	1898
	(iii) Mental Hospital, Bhavnagar . . .	State Govt.	1942
	(iv) Mental Hospital, Bhuj-Kutch . . .	State Govt.	1956
5. Jammu and Kashmir.	(i) Government Mental Hospital, Srinagar.	State Govt.	1958
6. Kerala . . .	(i) Hospital for Mental Diseases, Trivandrum.	State Govt.	1870
	(ii) Government Mental Hospital, Calicut.	State Govt.	1872
	(iii) Mental Hospital, Trichur . . .	State Govt.	1914
7. Maharashtra . . .	(i) Mental Hospital, Ratnagiri . . .	State Govt.	1886
	(ii) Narrotam Madhavdas Mental Hospital, Thana.	State Govt.	1901
	(iii) Mental Hospital, Nagpur . . .	State Govt.	1906
	(iv) Central Mental Hospital, Yeravda, Poona.	State Govt.	1913
8. Madras . . .	(i) Government Mental Hospital, Madras.	State Govt.	1799
9. Madhya Pradesh	(i) Mental Hospital, Indore . . .	State Govt.	..
	(ii) Mental Hospital, Gwalior . . .	State Govt.	1932
10. Mysore . . .	(i) Mental Hospital, Dharwar . . .	State Govt.	1851
	(ii) Mental Hospital, Bangalore . . .	State Govt.	1888
11. Orissa . . .	(i) S.C.B. Medical College, Hospital (Psychiatry O.P.D.), Cuttack.	State Govt.	1949
12. Punjab . . .	(i) Punjab Mental Hospital, Amritsar . . .	State Govt.	1949
13. Rajasthan . . .	(i) Mental Hospital, Jaipur . . .	State Govt.	..
	(ii) Mental Hospital, Jodhpur . . .	State Govt.	..

Table 42—contd.

1	2	3	4
14. Uttar Pradesh .	(i) Mental Hospital, Agra . .	State Govt.	..
	(ii) Mental Hospital, Bareilly . .	State Govt.	1928
	(iii) Mental Hospital, Varanasi . .	State Govt.	1958
15. West Bengal .	(i) Mental Hospital, Mankundu, Hooghly.	Voluntary Body.	1932
	(ii) Bangiya Unmad Asram, Duttanagar, Calcutta.	Private	1935
	(iii) Lumbini Park Mental Hospital, Calcutta.	Private	1940
	(iv) Bodhi Peet Mental Hospital, 20, Harinath Dey Road, Calcutta-9.	Private	..
	(v) Mental Hospital, 133, Vivekananda Road, Calcutta-6.	Private.	..
16 Delhi . . .	(i) Mental Hospital, Central Jail, Tihar, New Delhi.	State Govt.	1959

NOTE.—(i) Information not available.

(ii) No other Union Territory in India except Delhi had the Mental Hospital during the year 1960.

Table 43

Statement showing the bed capacity available in the various individual Mental Hospitals in the country during the year 1960

States/Union Territories	Mental Hospitals and their locations	Bed capacity					Grand Total	No. of beds per lakh of population for the State as a whole	
		Sanctioned		Extra					
		Males	Females	Total	Males	Females			Total
1	2	3	4	5	6	7	8	9	10
1. Andhra Pradesh	(i) Hospital for mental Diseases, Hyderabad	+	+	600	+	+	+	600	
	(ii) Government Mental Hospital, Waltair . . .	225	75	300	27	55	82	382	
	State Total . . .	225	75	900	27	55	82	982	3.2
2. Assam . . .	(i) Mental Hospital, Tezpur . . .	+	+	+	+	+	+	+	
	State Total . . .	+	+	+	+	+	+	+	
3. Bihar . . .	(i) Hospital for Mental Diseases, Kanke (Ranchi) . . .	+	+	453@	..	..	..	453	
	(ii) Ranchi Mansik Arogya-shala, Kanke (Ranchi) . . .	+	+	+	+	+	+	+	
	TOTAL . . .	+	+	453@	+	+	+	453	+

Table 43—contd.

1	2	3	4	5	6	7	8	9	10
4. Gujarat	(i) Mental Hospital, Ahmedabad	265	61	317	142	110	252	569	
	(ii) Mental Hospital, Baroda	100	55	155	82	22	104	259	
	(iii) Mental Hospital, Bhuj-Kutch	10	6	16	..	..	..	16	
	(iv) Mental Hospital, Bhavnagar	12	6	18	..	..	..	18	
	State Total	378	128	506	224	132	356	862	4.2
5. Jammu and Kashmir	(i) Government Mental Hospital, Srinagar	+	+	50	+	+	20	70	
	State Total	+	+	50	+	+	20	70	+
6. Kerala	(i) Hospital for Mental Diseases, Trivandrum	141	60	201	..	..	..	201	
	(ii) Government Mental Hospital, Calicut	274	90	364	..	..	..	364	
	(iii) Government Mental Hospital, Trichur	124	33	157	..	..	..	157	
	State Total	539	183	722	..	..	..	722	4.3
7. Madhya Pradesh	(i) Mental Hospital, Indore	+	+	+	+	+	+	+	
	(ii) Mental Hospital, Gwalior	115	50	165	10	5	15	180	
	Total	115	50	165	10	5	15	180	+

1,279	521	1,800	581	362	943	2,743	
State Total	521	1,800	581	362	943	2,743	8.7

9. Maharashtra
- (i) Central Mental Hospital, Yervada, Poona-6
 - (ii) Mental Hospital, Ratnagiri
 - (iii) Mental Hospital, Nagpur
 - (iv) Narrotam Madhavdas Mental Hospital, Thana.

829	468	297	780	550	1,330	2,627	
+	+	226	+	+	133	359	
458	152	610	50	50	100	710	
290	150	440	661	603	1,264	1,704	
State Total	770	2,573	1,491	1,203	2,827	5,400	13.8

10. Mysore
- (i) Mental Hospital, Dharwar
 - (ii) Mental Hospital, Bangalore

188	61	249	..	..	..	249	
300	200	500	467	356	823	1,323	
State Total	261	749	467	356	823	1,572	9.2

11. Orissa
- (i) S. C. B. Medical College Hospital, Cuttack

..	
State Total	..	..	..	..	..	..

12. Punjab
- (i) Punjab Mental Hospital, Amritsar

392	209	601	189	120	309	910	
State Total	209	601	189	120	309	910	4.6

13. Rajasthan
- (i) Mental Hospital, Jodhpur
 - (ii) Mental Hospital, Jaipur

40	20	60	101	14	115	175	
+	+	+	+	+	+	+	
State Total	20	60	101	14	115	175	+

Table 43—concl'd.

1	2	3	4	5	6	7	8	9	10
14. Uttar Pradesh	(i) Mental Hospital, Agra	543	175	718	..	..	..	718	
	(ii) Mental Hospital, Bareilly	296	122	408	..	..	..	408	
	(iii) Mental Hospital, Varanasi	252	79	331	..	..	..	331	
	Total	1,091	366	1,457	..	..	..	1,457	2.0
15. West Bengal	(i) Bangiya Unmad Asram, Duttanagar, Calcutta-30	80	30	110	..	..	..	110	
	(ii) Lumbini Park Mental Hospital, Calcutta.	130	35	165	..	..	..	165	
	(iii) Mental Hospital, Mankundu, Hooghly	40	40	80	..	..	..	80	
	(iv) Bodhi Peet Mental Hospital, Calcutta	+	+	+	+	+	+	+	
	Total	250	105	355	..	..	..	355	+
16. Delhi	(i) Mental Hospital, Central Jail Tihar, New Delhi	+	+	70	..	..	..	70	
	State Total	+	+	70	..	..	..	70	2.7
	GRAND TOTAL	6,374	2,688	10,461	3,090	2,247	5,499	15,951	+

NOTE.—@There is no earmarking of beds according to sex. The bed strength is divided between male and female patients in the ratio of 60:40 approximately.

+Information not available.

.. Nil information.

Table 44

Statement showing the number of mental patients treated, discharged and died in the various Mental Hospitals of different States in India during the year 1960.

States/Union Territories	In-door treated			Discharged			Deaths (In-door)		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1. Andhra Pradesh	482	202	684	219	98	317	9	12	47@
2. Assam	921	177	1,098	247	30	277	34	7	41
3. Bihar	+	+	2,536	+	+	2,453	71	28	99
4. Gujarat	40	16	56	22	1	23	47	28	75
5. Jammu and Kashmir	343	179	522	282	154	436	3	1	4
6. Kerala	1,618	711	2,329	1,194	556	1,750	157	91	248
7. Madhya Pradesh	179	56	235	118	26	144	3	..	3
8. Madras	3,000	1,412	4,412	1,097	527	1,624	68	36	104
9. Mysore	1,747	1,111	2,858	1,185	857	2,042	193	38	231
10. Maharashtra	722	326	1,048	602	278	880	194	130	324
11. Orissa	882*	510*	1,392*	+	+	+	+	+	+
12. Punjab	915	528	1,443	274	222	496	33	18	51
13. Rajasthan	498	79	577	480	72	552	7	4	30£
14. Uttar Pradesh	+	+	+	+	+	+	+	+	+
15. West Bengal	599	347	946	210	138	348	4	3	7
16. Delhi	+	+	280	+	+	152	+	+	3
TOTAL	11,946	5,654	20,416	5,930	2,959	11,494	823	396	1,267

NOTE.—@Distribution of 26 deaths by sex is not available.

*Figures relate to O. P. D. Psychiatric functioning at S. C. B. Medical College and Hospital, Cuttack.

£Distribution of 19 deaths by sex is not available.

+Information not available.

..Nil information.

Table 45

Statement showing the number of Family Planning Centres functioned
up to March, 1961

States/Union Territories	Rural		Urban		Total	
	Regular & Others		Regular & Others		Regular & Others	
1. Andhra Pradesh	478		62		540	
2. Assam	175		19		194	
3. Bihar	41		72		113	
4. Jammu and Kashmir . . . . .	..		4		4	
5. Kerala	664		14		678	
6. Madhya Pradesh	221		62		283	
7. Mysore	510		156		666	
8. Maharashtra*	259		89		348	
9. Orissa	87		33		120	
10. Punjab	71		87		158	
11. Rajasthan	52		27		79	
12. Uttar Pradesh	120		38		158	
13. West Bengal	76		62		138	
14. Delhi . . . . .	..		35		35	
15. Himachal Pradesh	24		13		37	
16. Manipur . . . . .	..		2		2	
17. Tripura . . . . .	..		1		1	
18. Pondicherry . . . . .	..		1		1	
19. Andaman and Nicobar Islands . . . . .	..		1		1	
TOTAL	2,963		876		3,839	

NOTE.— *including Gujarat State also.

.. Nil information.

Table 46

Maternity and Child Welfare Centres in Rural and Urban areas and the health personnel employed therein during the year 1960

States/Union Territories	Number of Centres maintained by												Health visitors				Midwives				Dais				
	Government			Local & Municipal bodies			Other agencies			Total			Rural		Urban		Total		Rural		Urban		Total		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	
1. Andhra Pradesh	+	+	+	+	+	+	+	+	+	+	+	969	+	+	+	+	+	+	+	+	+	+	+	+	
2. Assam	238	6	244	..	1	1	..	4	238	11	249	22	15	37	661	30	691	94	5	99	+	+	+	+	
3. Bihar	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
4. Gujarat	132	37	169	12	42	54	4	94	148	173	321	163	17	180	328	109	437	110	4	114	+	+	+	+	
5. Maharashtra	290	60	350	34	127	161	42	117	159	304	670	309	436	745	472	453	925	230	789	1,019	+	+	+	+	
6. Jammu and Kashmir	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
7. Kerala	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
8. Madhya Pradesh	131	65	196	3	16	19	6	2	8	83	229	135	76	211	465	174	639	386	118	504	+	+	+	+	
9. Madras	1,138	+	1,138	330	248	578	191	38	229	1,659	286	1,945	161	140	301	1,763	825	2,588	3,340	+	+	+	+	+	
10. Mysore	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
11. Orissa	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
12. Punjab	157	12	169	17	37	54	18	32	50	192	273	217	97	314	414	4	418	290	165	455	+	+	+	+	
13. Rajasthan	5	45	50	+	+	+	+	+	5	45	50	2	13	15	2	30	32	6	28	34	+	+	+	+	
14. Uttar Pradesh	1,134	14	1,148	14	65	79	100	24	124	1,248	103	1,351	269	48	317	698	155	853	864	9	873	+	+	+	
15. West Bengal	72	52	124	11	25	36	133	46	179	216	339	+	+	+	+	+	+	+	+	+	+	+	+		
16. Andaman and Nicobar	2	1	3	+	+	+	+	+	2	1	3	2	2	4	2	3	5	16	+	16	+	+	+	+	
17. Delhi	+	+	+	+	+	+	+	+	+	+	79*	+	+	89**	+	+	+	+	+	157**	+	+	+	+	
18. Himachal Pradesh	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
19. Manipur	..	1	1	..	..	..	..	..	..	1	1	..	2	2	..	2	2	..	1	1	+	+	+	+
20. Pondicherry	3	..	3	..	..	..	..	..	3	..	3	2	..	2	13	..	13	12	..	12	+	+	+	+
21. Tripura	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
TOTAL	3,302	293	3,595	421	561	982	494	357	851	4,223	1,211	6,482	1,282	846	2,217	4,818	1,785	6,603	5,348	1,119	6,624	+	+	+	+

NOTE: + Information not available. = Information incomplete. *Includes 57 Maternity and Child Welfare Centres and 22 Sub-Centres functioning under the administration of Municipal Corporation of Delhi alone. **Including 72 Lady Health Visitors and 17 Lady Doctors. .. Nil information.

Table 47—contd.

Statement showing the number of Maternity Hospitals/Wards and the numbers of beds available in rural and urban areas during the year 1960—contd.

States/Union Territories	Paediatric Wards in General Hospitals				M. C. H. Clinics				
	Rural		Urban		Pre-natal		Ante-natal		Total
	No.	Beds	No.	Beds	Rural	Urban	Rural	Urban	
1. Andhra Pradesh . . .	+	+	+	+	+	+	+	+	+
2. Assam . . .	..	..	+	37	165	28	165	28	193
3. Gujarat . . .	..	..	8	268	172	77	186	26	212
4. Jammu and Kashmir . . .	+	+	+	+	1	2	..	1	1
5. Kerala . . .	3	16	10	195	735	..	735	..	735
6. Madhya Pradesh . . .	1	6	19	241	162	35	31	16	47
7. Madras . . .	+	38	+	338	31	1,062	199	726	925
8. Maharashtra . . .	15	295	15	295	596	138	..	..	..
9. Orissa . . .	1	12	2	64	415	21	415	21	436
10. Punjab . . .	+	4	+	152	158	81	102	8	110
11. Rajasthan . . .	..	..	22	400	115	88	115	88	203
12. Andaman and Nicobar Islands . . .	..	..	1	36	..	..	..	..	..

13. Delhi	.	.	.	.	.	+	+	+	+	+	12	+	12	12
14. Himachal Pradesh	.	.	.	.	.	..	1	14	30	16	46	4	11	15
15. Laccadive Islands	.	.	.	.	.	..	..	..	..	..	..	..	..	..
16. Manipur	.	.	.	.	.	..	..	..	..	..	..	..	..	..
17. Tripura	.	.	.	.	.	..	..	..	18	1	19	18	1	191
TOTAL	.	.	.	.	.	20	78	2,040	2,598	1,561	4,159	1,970	938	2,908

NOTE.—.. Nil information.
+ Information not available.

Table 48

Number of Maternity and Child Welfare personnel trained in various States of India during the year 1960

States/Union Territories	Lady Health Visitors	Public Health Nurses	Mid-wives	Dais	Auxiliary Nurse Mid-wives
1. Andhra Pradesh . . .	55	..	..	1,138	..
2. Assam	13	3	33	..	53
3. Bihar	+	+	+	+	+
4. Gujarat	6	..	7	182	131
5. Jammu and Kashmir . .	8	..	29	4	7
6. Kerala	30	..	..	..	212
7. Madhya Pradesh . . .	17	..	..	552	174
8. Madras	26	..	407	800	36
9. Maharashtra	37	14	..	782	252
10. Mysore	+	+	+	+	+
11. Orissa	22	..	..	360	48
12. Punjab	42	..	87	767	168
13. Rajasthan . . . . .	..	13	36	199	..
14. Uttar Pradesh . . .	+	+	+	+	+
15. West Bengal	+	+	+	+	+
16. Andaman and Nicobar Islands.	..	..	..	..	..
17. Delhi+					
18. Himachal Pradesh . .	2	..	..	34	10
19. Laccadive Islands . .	..	..	..	..	..
20. Manipur . . . . .	..	..	..	94	..
21. Tripura . . . . .	..	..	..	8	26
TOTAL	258	30	599	4,920	1,117

NOTE.— .. Nil information

+ Information not available.

Table 49

*Scholarships/Fellowships granted by International Agencies to Nurses
for studies abroad during the year 1960*

Name of Agency	Number of scholar- ships/fellowships granted
1. T.C.M.	3
2. W.H.O.	3
3. Colombo Plan	7
4. Rockefeller Foundation . . . . .	..
TOTAL	13

NOTE.— ..Nil information.

Table 50

Statement showing the number of Nursing Schools, number of students for Basic and Post-certificate Courses during the year 1960

1. Number of Training Schools :

(i) B.Sc. (Nursing)	2
(ii) General Nursing	239
(iii) Auxiliary Nurse-Midwives	201
(iv) Health Visitors	21
(v) Midwifery	284

2. Number of Students :

(i) B.Sc. (Nursing)	170
(ii) General Nursing	10,290
(iii) Midwifery	3,116
(iv) Auxiliary Nurse-Midwives	5,053
(v) Health Visitors	1,163

3. Number qualified :

(i) B.Sc. (Nursing)	25
(ii) General Nursing	2,562
(iii) Midwifery	1,986
(iv) Auxiliary Nurse-Midwives	1,828
(v) Health Visitors	412

4. Number of nursing personnel Registered upto 31-12-1960

(i) Nurses	32,733
(ii) Midwives	38,528
(iii) Auxiliary Nurse-Midwives	2,264
(iv) Health Visitors	1,481

5. Number of Post-certificate Institutions and Students qualified :

Courses	No. of institutions	Number qualified
(i) Ward Sister Course	2	79
(ii) Nursing Administration	2	17
(iii) Sister Tutors	4	43
(iv) Midwife Tutors	1	9
(v) Public Health Nursing	3	58
(vi) Psychiatric Nursing	1	21

Table 51

Statement showing the number of posts sanctioned and actual number of Nurses etc. employed in the States during the year 1960

States/Union Territories	Matrons		Assistant Matrons		Sister Tutors		Sisters		Staff Nurses	
	Sanctioned	Actual	Sanctioned	Actual	Sanctioned	Actual	Sanctioned	Actual	Sanctioned	Actual
1	2	3	4	5	6	7	8	9	10	11
1. Andhra Pradesh	23	23	..	..	17	17	160	160	1,270	1,270
2. Assam	22	22	1	1	..	+	63	63	285	249
3. Gujarat	24	24	7	6	24	20	105	88	577	444
4. Kerala	18	18	..	..	17	17	108	103	864	755
5. Madras	7	7	41	41	39	39	167	167	1,669	1,669
6. Maharashtra	49	49	23	23	45	41	343	329	1,364	1,297
7. Orissa	1	1	1	1	18	14	35	28	340	271
8. Punjab	13	9	..	..	10	10	76	64	524	413
9. Rajasthan	+	+	+	+	+	+	+	+	+	+
10. West Bengal . . . . .	..	..	..	..	..	..	..	..	1,409	1,454
11. Andaman and Nicobar Islands	1	1	..	..	1	..	8	8	9	9
12. Himachal Pradesh	9	6	..	..	8	4	17	10	147	81
13. Manipur	1	1	..	..	..	..	4	4	18	18
14. Tripura	2	1	1	1	1	1	1	1	31	14
15. Laccadive Islands . . . . .	..	..	..	..	..	..	..	..	1	1
16. N.E.F.A.	1	1	..	..	..	..	1	..	21	19

NOTE.—+ Information not available.

.. Nil information.

Table 51—contd.

States/Union Territories	Midwives		Health Visitors		Public Health Nurses		Auxiliary Nurse Midwives		Nurse Dais		Trained Dais	
	Sanc-tioned	Actual	Sanc-tioned	Actual	Sanc-tioned	Actual	Sanc-tioned	Actual	Sanc-tioned	Actual	Sanc-tioned	Actual
1	12	13	14	15	16	17	18	19	20	21	22	23
1. Andhra Pradesh	230	230	105	105	..	..	..	..	..	..	..	..
2. Assam	534	364	40	23	6	6	534	364	56	56	..	..
3. Gujarat	161	153	16	11	13	12	..	..	..	..	24	19
4. Kerala	855	804	191	150	17	13	108	100	36	36	..	..
5. Madras	1,181	1,181	..	..	..	..	..	..	..	..	..	..
6. Maharashtra	447	404	198	171	26	26	493	489	19	19	122	122
7. Orissa . . . . .	..	..	104	66	..	..	176	143	..	..	..	..
8. Punjab . . . . .	..	..	294	268	3	3	685	278	336	316	..	..
9. Rajasthan	+	+	+	+	+	+	+	+	+	+	+	+
10. West Bengal	613	653	..	..	190	165	1,800	778	..	..	+	1,452
11. Andaman and Nicobar Islands	8	67	63	6	4	..	..	..	..	..	17	17
12. Himachal Pradesh	65	65	105	89	15	11	89	59	40	39	..	..
13. Manipur	10	10	2	2	..	..	8	8	1	1	..	..
14. Tripura	17	7	24	13	..	..	96	92	39	30	..	..
15. Laccadive Islands	6	6	..	..	..	..	..	..	..	..	..	..
16. N.E.F.A.	19	17	..	..	..	..	..	..	..	..	..	..

NOTE—+ Information not available.

.. Nil information.

Table 52

Statement showing the nursing staff/bed ratio and nursing staff and population ratio in different states during the year 1960

States/Union Territories	Ratio of Nursing Staff to Beds	Ratio of Nursing Staff to Population
1. Andhra Pradesh	1 : 8	1 : 24,421
2. Assam	1 : 7	1 : 29,907
3. Gujarat	1 : 7	1 : 33,500
4. Kerala	1 : 14	1 : 17,200
5. Madras	1 : 8*	1 : 4,000
6. Maharashtra	1 : 15† 1 : 5	1 : 13,812
7. Orissa	1 : 13	1 : 54,922
8. Punjab	+	+
9. Rajasthan	1 : 5	1 : 2,915
10. West Bengal	1 : 12	1 : 5,361
11. Andaman and Nicobar Islands .	1 : 6	1 : 3,000
12. Himachal Pradesh	1 : 7	1 : 7,000
13. Manipur	1 : 14	1 : 32,430
14. Tripura	1 : 2	1 : 7,137
15. Laccadive, Minicoy and Amindive Islands.	1 : 10	1 : 2,500

NOTE.—*Relates to non-teaching hospitals.

† Relates to teaching hospitals.

+ Information not available.

Table 53

List of Medical Colleges/Institutions in India, providing facilities for Post-graduate Degrees/Diploma Courses during the year 1960

ANDHRA PRADESH

1. Andhra Medical College, Vishakhapatnam.
2. Guntur Medical College, Guntur.
3. Kurnool Medical College, Kurnool.
4. Osmania Medical College, Hyderabad-Dn.

ASSAM

5. Assam Medical College, Dibrugarh.

BIHAR

6. Prince of Wales Medical College, Patna.
7. Darbhanga Medical College, Laheriasarai.
8. Hospital for Mental Diseases, Kanke, Ranchi.

GUJARAT

9. B.J. Medical College, Ahmedabad.
10. Medical College, Baroda.
11. M.P. Shah Medical College, Jamnagar.
12. School of Post-graduate Medicine and Research, Ahmedabad.

KERALA

13. Medical College, Trivandrum.

MADHYA PRADESH

14. Medical College, Jabbulpur.
15. M.G.M. Medical College, Indore.
16. G.R. Medical College, Gwalior.

MADRAS

17. Madras Medical College, Madras.
18. Stanley Medical College, Madras.
19. Christian Medical College, Vellore.
20. King Institute of Preventive Medicine Guindy, Madras.
21. Institute of Obstetrics and Gynaecology, Government Hospital for Women and Children, Madras.
22. Institute of Venereology, Government General Hospital, Madras.
23. Barnard Institute of Radiology, Government General Hospital, Madras.

MAHARASHTRA

24. Grant Medical College, Bombay.
25. Seth G.S. Medical College, Parel, Bombay.
26. Topiwala National Medical College, Bombay.
27. B.J. Medical College, Poona.
28. Medical College, Nagpur.
29. Armed Forces Medical College, Poona.
30. Nair Hospital Dental College, Bombay.
31. Government Dental College and Hospital, Bombay.

MYSORE

32. Kasturba Medical College, Manipal.
33. Medical College, Mysore.
34. Bangalore Medical College, Bangalore.
35. All India Institute of Mental Health, Bangalore.

ORISSA

36. S.C.B. Medical College, Cuttack.

PUNJAB

37. Medical College, Amritsar.
38. Government Medical College, Patiala.
39. Post-graduate Medical Education and Research Institute, Chandigarh.

RAJASTHAN

40. S.M.S. Medical College, Jaipur.

UTTAR PRADESH

41. K.G. Medical College, Lucknow.
42. Medical College, Agra.
43. G.S.V.M. Medical College, Kanpur.
44. Institute of Ophthalmology, Aligarh.

WEST BENGAL

45. Medical College, Calcutta.
46. R.G. Kar Medical College, Belgachia Road, Calcutta-4.
47. Institute of Post-graduate Medical Education and Research, Calcutta.
48. Chittaranjan Seva Sadan College of Obstetrics, Gynaecology and Child Health Calcutta.
49. School of Tropical Medicine, Calcutta.
50. All India Institute of Hygiene and Public Health, Calcutta.

DELHI

51. Lady Hardinge Medical College (for Women), New Delhi.
52. All India Institute of Medical Sciences, Ansari Nagar, New Delhi.
53. Maulana Azad Medical College, New Delhi.
54. Vallabhbhai Patel Chest Institute, Delhi.
55. Willingdon Hospital, New Delhi.
56. Safdarjang Hospital, New Delhi.

Table 54

Number of students admitted in M.B.B.S. course in the various Medical Colleges in India during the year 1960

Name of the College	Males	Females	Total
1	2	3	4
ANDHRA PRADESH			
1. The Andhra Medical College, Vishakhapatnam	102	27	129
2. The Guntur Medical College, Guntur . . .	98	32	130
3. The Kurnool Medical College, Kurnool . . .	85	16	101
4. The Osmania Medical College, Hyderabad-Dn.	83	47	130
5. The Gandhi Medical College, Hyderabad-Dn. .	54	31	85
6. Shri Rangaraya Memorial Medical College, Kakinada.	95	5	100
7. Sri Venkateswara Medical College, Tirupati, District Chittoor.	+	+	+
8. Medical College, Warangal. . . .	92	8	100
	609	166	775
ASSAM			
9. The Assam Medical College, Dibrugarh . . .	94	16	110
10. Gauhati Medical College, Gauhati	97	3	100
	191	19	210
BIHAR			
11. The Prince of Wales Medical College, Patna .	115	35	150
12. The Darbhanga Medical College, Laheriasarai .	117	33	150
13. The Medical College, Ranchi	120	30	150
	352	98	450
GUJARAT			
14. B. J. Medical College, Ahmedabad	76	44	120
15. Medical College, Baroda	48	12	60
16. M. P. Shah Medical College, Jamnagar . . .	78	22	100
	202	78	280
KERALA			
17. The Medical College, Trivandrum	107	43	150
18. The Medical College, Calicut	106	49	155
	213	92	305

+ Not available.

Table 54—contd.

1	2	3	4
MADHYA PRADESH			
19. The Medical College, Jabbulpur . . .	40	40	80
20. The Mahatma Gandhi Memorial Medical College, Indore.	76	30	106
21. The Gajra Raja Medical College, Gwalior .	87	20	107
22. The Gandhi Medical College, Bhopal . .	59	21	80
	262	111	373
MADRAS			
23. The Madras Medical College, Madras . .	88	49	137
24. The Stanley Medical College, Madras . .	81	24	105
25. The Kilpauk Medical College, Kilpauk, Madras	+	+	+
26. The Christian Medical College, Vellore .	25	25	50
27. The Madurai Medical College, Madurai . .	66	33	99
28. The Tanjore Medical College, Tanjore . .	59	16	75
	319	147	466
MAHARASHTRA			
29. The Grant Medical College, Bombay . .	102	48	150
30. The Seth G. S. Medical College, Parel, Bombay	47	38	85
31. The Topiwala National Medical College, Bombay	29	33	62
32. The B. J. Medical College, Poona . . .	110	40	150
33. The Medical College, Nagpur . . .	105	44	149
34. The Government Medical College, Aurangabad	51	9	60
	444	212	656
MYSORE			
35. The Kasturba Medical College, Manipal . .	117	14	131
36. The Medical College, Mysore . . .	54	2	56
37. The Bangalore Medical College, Bangalore .	62	23	85
38. The Karnatak Medical College, Hubli . .	77	23	100
	310	62	372

+ Not available.

Table 54—contd.

1	2	3	4
ORISSA			
39. The Sriram Chandra Bhunj Medical College, Cuttack.	107	43	150
40. The Medical College, Burla (Sambalpur)	41	9	50
	148	52	200
PUNJAB			
41. The Medical College, Amritsar	83	19	102
42. The Christian Medical College, Ludhiana .	26	24	50
43. The Government Medical College, Patiala .	105	27	132
44. The Medical College, Rohtak (Students at present admitted at Medical College, Patiala).			
	214	70	284
RAJASTHAN			
45. The Swai Man Singh Medical College, Jaipur .	92	31	123
46. The Bikaner Medical College, Bikaner . .	69	14	83
	161	45	206
UTTAR PRADESH			
47. The King George's Medical College, Lucknow .	116	28	144
48. The Medical College, Agra	76	23	99
49. The G.S.V.M. Medical College, Kanpur .	116	38	154
50. The College of Medical Sciences, Varanasi .	35	5	40
	343	94	437
WEST BENGAL			
51. The Calcutta National Medical Institute, Calcutta	109	25	134
52. The Medical College, Calcutta	79	26	105
53. The R.G. Kar Medical College, Belgachia Road, Calcutta.	84	24	108
54. The Nilratan Sircar Medical College, Calcutta .	76	29	105
55. The Bankura Sammilani Medical College, Bankura (1959).	50	..	50
	398	104	502

Table 54—contd.

1	2	3	4
JAMMU AND KASHMIR			
56. The Medical College, Srinagar	78	33	111
DELHI			
57. The Lady Hardinge Medical College (for women), New Delhi.	..	78	78
58. All India Institute of Medical Sciences, New Delhi.	45	5	50
59. The Maulana Azad Medical College, New Delhi	62	10	72
	107	93	200
PONDICHERRY			
60. The Medical College, Pondicherry .	36	11	47
STATE-WISE ABSTRACT			
1. Andhra Pradesh	609	166	775
2. Assam	191	19	210
3. Bihar	352	98	450
4. Gujarat	202	78	280
5. Kerala	213	92	305
6. Madhya Pradesh	262	111	373
7. Madras	319	147	466
8. Maharashtra	444	212	656
9. Mysore	310	62	372
10. Orissa	148	52	200
11. Punjab	214	70	284
12. Rajasthan	161	45	206
13. Uttar Pradesh	343	94	437
14. West Bengal	398	104	502
15. Jammu and Kashmir	78	33	111
16. Delhi	107	93	200
17. Pondicherry	36	11	47
GRAND TOTAL	4,387	1,487	5,874

Table 55

Number of students passed in MBBS course during the year 1960

Name of the College	Males	Females	Total
1	2	3	4
ANDHRA PRADESH			
1. The Andhra Medical College, Vishakhapatnam	96	14	110
2. The Guntur Medical College, Guntur . . .	39	17	56
3. The Kurnool Medical College, Kurnool . . .	8	..	8
4. The Osmania Medical College, Hyderabad-Dn..	117	34	151
	260	65	325
ASSAM			
5. The Assam Medical College, Dibrugarh . . .	45	1	46
BIHAR			
6. The Prince of Wales Medical College, Patna .	107	24	131
7. The Darbhanga Medical College, Laheriasarai .	77	10	87
	184	34	218
GUJARAT			
8. B. J. Medical College, Ahmedabad . . .	143	28	171
9. Medical College, Baroda	57	10	67
	200	38	238
KERALA			
10. The Medical College, Trivandrum . . .	66	22	88
MADHYA PRADESH			
11. The Medical College, Jabbulpur . . .	26	4	30
12. The Mahatma Gandhi Memorial Medical College, Indore.	61	20	81
13. The Gajra Raja Medical College, Gwalior .	53	17	70
14. The Gandhi Medical College, Bhopal . . .	30	10	40
	170	51	221
MADRAS			
15. The Madras Medical College, Madras . . .	57	13	70
16. The Stanley Medical College, Madras . . .	84	27	111
17. The Christian Medical College, Vellore .	24	24	48
18. The Madurai Medical College, Madurai . . .	45	13	58
	210	77	287

Table 55—contd.

1	2	3	4
MAHARASHTRA			
19. The Grant Medical College, Bombay . . .	103	32	135
20. The Seth G. S. Medical College, Parel, Bombay	64	27	91
21. The Topiwala National Medical College, Bombay	40	17	57
22. The B. J. Medical College, Poona	83	27	110
23. The Medical College, Nagpur.	102	14	116
	392	117	509
MYSORE			
24. The Kasturba Medical College, Manipal .	144	6	150
25. The Medical College, Mysore	58	11	69
26. The Bangalore Medical College, Bangalore .	6	2	8
	208	19	227
ORISSA			
27. The S. C. B. Medical College, Cuttack . . .	37	14	51
PUNJAB			
28. The Medical College, Amritsar	70	15	85
29. The Christian Medical College, Ludhiana .	23	32	55
30. The Government Medical College, Patiala .	40	7	47
	133	54	187
RAJASTHAN			
31. The Swai Man Singh Medical College, Jaipur	66	20	86
UTTAR PRADESH			
32. The King George's Medical College, Lucknow .	145	30	175
33. The Medical College, Agra	54	19	73
34. The G.S.V.M. Medical College, Kanpur . . .	50	18	68
	249	67	316
WEST BENGAL			
35. The Medical College, Calcutta	128	17	145
36. The R. G. Kar Medical College, Calcutta. .	135	6	141
37. The Nilratan Sircar Medical College, Calcutta.	127	25	152
38. The Calcutta National Medical Institute, Calcutta	94	11	105
	484	59	543

Table 55—contd.

	1	2	3	4
DELHI				
39. The Lady Hardinge Medical College, New Delhi	..	45	45	
STATE-WISE ABSTRACT				
1 Andhra Pradesh	260	65	325	
2. Assam	45	1	46	
3. Bihar	184	34	218	
4. Gujarat	200	38	238	
5. Kerala	66	22	88	
6. Madhya Pradesh	170	51	221	
7. Madras	210	77	287	
8. Maharashtra	392	117	509	
9. Mysore	208	19	227	
10. Orissa	37	14	51	
11. Punjab	133	54	187	
12. Rajasthan	66	20	86	
13. Uttar Pradesh	249	67	316	
14. West Bengal	484	59	543	
15. Delhi . . . . .	..	45	45	
GRAND TOTAL .	2,704	683	3,387	

Table 56

Statement showing Medical Colleges approved for the establishment of the Department of Preventive and Social Medicine with Central assistance up to the end of the year 1960

1. Medical College, Nagpur.
2. Medical College, Dibrugarh.
3. Medical College, Gwalior.
4. Medical College, Visakhapatnam.
5. Medical College, Trivandrum
6. Medical College, Laheriasarai.
7. Medical College, Cuttack.
8. Medical College, Jaipur.
9. Medical College, Calcutta.
10. Medical College, Madras.
11. Medical College, Lucknow.
12. Medical College, Guntur.
13. Medical College, Amritsar.
14. Medical College, Patiala.
15. Medical College, Baroda.
16. Grant Medical College, Bombay.
17. B. J. Medical College, Poona.
18. B. J. Medical College, Ahmedabad.

Table 57

Statement showing number of candidates who proceeded abroad on fellowships during 1960 and the subjects of training under the Colombo Plan, Point Four Programme, U.N.T.A.A. and the World Health Organisation

Scheme	No. of candidates awarded fellowships	Subject	Countries
1	2	3	4
Colombo Plan .	31	P.H. Nursing, Tuberculosis Nursing, Paediatrics, Nursing Education, Bacteriology, Oto-Rhino - Laryngology, Forensic Medicine, Epidemiology, Ophthalmology, P.H. Engineering, Social Security Administration and National Health Service, Neurology, Immunohistopathology, Cardiology, Radiation Therapy and Supervoltage Therapy, Pharmacology, Medical and Health Physics, Neurology, Chest Diseases, Oral Surgery, Psychiatry, Physiology, Prethodontics and Orthodontics.	U.K., Australia, Canada.
W.H.O. .	36	Paediatrics, Dental Prosthetics, Paediatric Surgery, Malaria Eradication, Sanitary Engineering, M.C.H., Bacteriology, Filaria Control, Epidemiology, Public Health majoring M.C.H., Anatomy, Biochemistry, Environmental Sanitation, Nursing, Preventive and Social Medicine, Health Statistics, Dental Education, Leprosy Control, Oral Surgery, Paediatric Nursing, Health Education.	Thailand, Ceylon, Greece Rumania, Iran, U.S.A., U.S.S.R., U.K., France, Brussels, Lebanon, Singapore, Penang, Australia, Newzealand, Bonn, Copenhagen, Scandinavian countries, Eastern Nigeria, Uganda, Philippines, Hong Kong, Sweden, Yugoslavia.
T.C.M. .	83	Medicine, Public Health Engineering, Anatomy, Embryology, Neuro-Surgery, Biochemistry, Ophthalmology, Oto-Rhino-Laryngology, Neuro-Pharmacology, Anaesthesiology, Preventive and Social Medicine, P. H. Nursing, Health Education, Bio-Statistics, Malaria Eradication, Chemotherapy, Sitology, Pathology and Bacteriology, Human Physiology, Filaria Control, Cardiology, Obstetrics and Gynaecology, Brain and Muscles Metabolism, Mornonosteroids, Coronary Circulation, Paediatric Nursing, Orthopaedic Nursing, Nursing Administration.	U.S.A.

Table 58

Statement showing the number of Foreign Scholars/fellows came in India for training and study purposes during the year 1960.

Name of the Scheme	No. of Scholars/ Fellows	Subject	Country
1	2	3	4
W.H.O. . .	28	Mental Health, Psychiatric Nursing, Leprosy, Cancer, Vital and Health Statistics, T. B. Control, Hospital Administration, Small-pox, Medical Care and Health Services in General - Rural Sanitation, Polio-myelitis, Malaria Eradication, Rehabilitation of Physically handi-capped children, Epidemiology, BCG. Assessment, Basic Nursing, Entomology, Environmental Sanitation, Treponematosi Control, Rural Health Work and Health Education, M. C. H., Trachoma Control, Co-ordination of Curative and Preventive Medicine.	Burma, Nigeria, Ceylon, Afghanistan, Malaya, U. S. A., U. K., Canada, Uganda, Philippines, Japan, Australia, Maldiv Islands, Iran, Nepal, Indonesia, Liberia, Tunisia, Mauritius, Iraq.
T.C.M. . .	1	Rural Sanitation	Thailand.
Colombo Plan .	43	M.B.B.S., Pathology Laboratory Technician, L. S. G., Radiographer, Ayurvediacharya, B. Pharmacy, D. P.H., Leper Hand Surgery, Research in Ayurvedic Medicine.	Malaya, Thailand, Philippines, Nepal.
U.N.T.A.A. .	12	Demography	Nepal, Burma, Korea, Iran, Ceylon, Japan, Thailand, Pakistan, Taiwan (Formosa).

Table 59

Recognised Medical Qualifications granted by Universities of Medical Institutions in India.

(The First Schedule)

University of Medical Instt.	Recognised Medical Qualification	Abbreviation for Registration	
1	2	3	4
University of Allahabad	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Allahabad
University of Agra	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Agra
	Doctor of Medicine (Med.)	M.D. (Medicine)	Agra
	Doctor of Medicine (Patho- logy).	M.D. (Pathology)	Agra
	Doctor of Medicine (Phar- macology).	M.D. (Pharmacology)	Agra
	Master of Surgery (Oph- thalmology).	M.S. (Ophthalmology)	Agra
	Master of Surgery (Surgery)	M.S. (Surgery)	Agra
	Master of Surgery (Obste- trics and Gynaecology).	M.S. (Obstetrics and and Gynaecology)	Agra
	Doctor of Medicine (Phy- siology).	M.D. (Physiology)	Agra
	Master of Surgery (Anatomy)	M.S. (Anatomy)	Agra
	Diploma in Ophthalmic Medicine/and Surgery.	D.O.M.S.	Agra
University of Andhra.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Andhra
	Doctor of Medicine	M.D.	Andhra
	Master of Surgery	M.S.	Andhra
	Licentiate in Medicine and Surgery.	L.M.S.	Andhra
	Diploma in Laryngology and Otology.	D.L.O.	Andhra
	Master of Surgery (General Surgery).	M.S. (General Surgery)	Andhra
	Master of Surgery (Ortho- paedics).	M.S. (Orthopaedics)	Andhra
	Diploma in Venereal Diseases	D.V.D.	Andhra

Table 59—contd.

1	2	3	4
University of Aligarh.	Diploma in Ophthalmology	D.O. This qualification shall be recognised medical qualification under this schedule only when it is held by persons holding any other medical qualification specified in this schedule.	Aligarh
University of Baroda.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Baroda
	Doctor of Medicine	M.D. (Medicine)	Baroda
	Master of Surgery	M.S. (Surgery)	Baroda
	Master of Science in Physiology.	M.Sc. (Physiology)	Baroda
University of Bombay.	Licentiate in Medicine and Surgery.	L.M.S.	Bombay
	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Bombay
	Doctor of Medicine	M.D.	Bombay
	Master of Surgery	M.S.	Bombay
	Diploma in Anaesthesiology	D.A.	Bombay
University of Bihar.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Bihar
University of Calcutta.	Licentiate in Medicine and Surgery.	L.M.S.	Calcutta
	Bachelor of Medicine	M.B.	Calcutta
	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Calcutta
	Doctor of Medicine	M.D.	Calcutta
	Master of Surgery	M.S.	Calcutta
	Master of Obstetrics	M.O.	Calcutta
	Diploma in Ophthalmic Medicine and Surgery.	D.O.M.S.	Calcutta
	Diploma in Gynaecology and Obstetrics.	D.G.O.	Calcutta
College of Physicians and Surgeons of Bombay.	Membership of College of Physicians and Surgeons, Bombay.	M.C.P.S. This qualification shall be a recognised medical qualification only when granted after the 30th April, 1944.	Bombay

Table 59—contd.

1	2	3	4
College of Physicians and Surgeons, of Bombay.—contd.	Fellowship of Physicians and Surgeons, Bombay, in Medicine, Pathology, Surgery or Dermatology.	F.C.P.S. (Medicine) F.C.P.S. (Pathology) F.C.P.S. (Surgery) F.C.P.S. (Dermatology)	Bombay Bombay Bombay Bombay.
		These qualifications shall be recognised medical qualifications only when granted after the 1st April, 1954.	
	Fellowships of the College of Physicians and Surgeons, Bombay in Midwifery and Gynaecology, Ophthalmology and Diplomas of the said College in Pathology, and Bacteriology, and Gynaecology, and Obstetrics and Child Health.	F.C.P.S. (Medicine and Gynaecology). F.C.P.S. (Ophthalmology) D.P.B. (Diploma in Pathology and Bacteriology). D.G.O. (Diploma in Gynaecology and Obsterics). D.C.H. (Diploma in Child Health).	
		These qualifications shall be recognised medical qualifications under this Schedule only when they are under by persons holding any other medical qualifications specified in this Schedule.	
University of Delhi.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Delhi
	Diploma in Tuberculosis Diseases.	D.T.D.	Delhi
University of Gauhati.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Gauhati
University of Gujarat.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Gujarat
University of Karnatak.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Karnatak
University of Kerala.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Kerala
University of Lucknow.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Lucknow
	Doctor of Medicine	M.D.	Lucknow
	Master of Surgery	M.S.	Lucknow
	Master of Surgery (Anatomy).	M.S. (Anatomy)	Lucknow

Table 59—contd.

1	2	3	4
University of Lucknow.— contd.	Master of Surgery (Orthopaedics).	M.S. (Orthopaedics).	Lucknow
	Master of Surgery (Ophthalmology).	M.S. (Ophthalmology)	Lucknow
	Master of Surgery (Obstetrics and Gynaecology).	M.S. (Obstetrics and Gynaecology).	Lucknow
	Master of Surgery (E.N.T.)	M.S. (E.N.T.)	Lucknow
	Doctor of Medicine (Physiology).	M.D. (Physiology)	Lucknow
	Doctor of Medicine (Pharmacology).	M.D. (Pharmacology).	Lucknow
	Doctor of Medicine (Pathology).	M.D. (Pathology)	Lucknow
	Diploma in Laryngology and Otology.	D.L.O.	Lucknow
	Diploma in Gynaecology and Obstetrics.	D.G.O.	Lucknow
	Diploma in Medical Radiology and Electrolgy.	D.M.R.E.	Lucknow
	Diploma in Ophthalmic Medicine and Surgery.	D.O.M.S.	Lucknow
	Diploma in Clinical Pathology.	D.C.P.	Lucknow
University of Madras.	Licentiate in Medicine and Surgery.	L.M.S.	Madras
	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Madras
	Bachelor of Medicine and Master of Surgery.	M.B., C.M.	Madras
	Doctor of Medicine	M.D.	Madras
	Master of Surgery	M.S.	Madras
University of Mysore	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S. This qualification shall be a recognised qualification only when granted after the 31st December, 1932.	Mysore
University of Nagpur.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Nagpur
University of Osmania.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Osmania

Table 59—contd.

1	2	3	4
University of East Punjab.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	East Punjab.
East Punjab State Medical Faculty.	Licentiate in Medicine and Surgery.	L.M.S.	East Punjab.
		This qualification shall be a recognised on only when granted on after the 15th August, 1947 provided the holders thereof had passed the F.Sc. Examination before taking up medical studies.	
University of Patna.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Patna
	Doctor of Medicine	M.D.	Patna
	Master of Surgery	M.S.	Patna
University of Poona.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Poona
University of Rajputana.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Rajputana
	Master of Surgery in General Surgery.	M.S. (General Surgery)	Rajputana
	Doctor of Medicine in Medicine and Therapeutics.	M.D. (Medicine and Therapeutics).	Rajputana
	Doctor of Medicine in Pathology.	M.D. (Pathology)	Rajputana
	Master of Science in Physiology.	M.Sc. (Physiology)	Rajputana
	Master of Science in Medical Pharmacology.	M.Sc. (Medicine Pharmacology).	Rajputana
University of Rajasthan.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Rajasthan
	Master of Surgery in General Surgery.	M.S. (General Surgery)	Rajasthan
	Doctor of Medicine in Medicine and Therapeutics.	M.D. (Medicine and Therapeutics).	Rajasthan
	Doctor of Medicine in Pathology.	M.D. (Pathology)	Rajasthan
	Master of Science in Physiology.	M.Sc. (Physiology)	Rajasthan
		These qualifications shall be recognised medical qualifications only when granted on or after the 1st July, 1957.	

Table 59—contd.

1	2	3	4
University of Rajasthan—contd.	Master of Science (Medicine and Pharmacology).	M. Sc. (Medicine and Pharmacology). This qualification shall be a recognised medical qualification only when granted on or after the 1st July, 1957.	Rajasthan.
University of Travancore.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Travancore
State Medical Faculty of West Bengal.	Membership of the State Medical Faculty of West Bengal.	M.M.F.	West Bengal
University of Utkal.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Utkal
University of Vikram.	Bachelor of Medicine and Bachelor of Surgery.	M.B., B.S.	Vikram
	Doctor of Medicine (Pharmacology).	M.D. (Pharmacology)	Vikram
	Doctor of Medicine (Pathology).	M.D. (Pathology)	Vikram
	Doctor of Medicine (Physiology).	M.D. (Physiology)	Vikram
	Doctor of Medicine (Medicine).	M.D. (Medicine)	Vikram
	Master of Surgery (Ophthalmology).	M.S. (Ophthalmology)	Vikram
	Master of Surgery (General Surgery).	M.S. (General Surgery)	Vikram
	Master of Surgery (Anatomy)	M.S. (Anatomy)	Vikram
	Master of Surgery (Obstetrics and Gynaecology).	M.S. (Obstetrics and Gynaecology).	Vikram
	Diploma in Tuberculosis Disease.	T.D.D.	Vikram
	Diploma in Child Health.	D.C.H.	Vikram
	Diploma in Medical Radiology and Electrology.	D.M.R.E.	Vikram

Table 60

Recognised medical qualifications granted by medical institutions outside the provinces

(Indian Medical Council Act, 1956, the Second Schedule.)

COUNTRY	QUALIFICATIONS			
UNITED KINGDOM	Registrable qualifications admitting primarily to the Medical Register granted by licensing bodies in the United Kingdom, as shown in Table 'E' set out in the Medical Register printed and published from time to time under the direction of the General Medical Council in pursuance of the Medical Acts, 1858, 1886 and 1950.			
REGISTRABLE QUALIFICATIONS				
OTHER COUNTRIES	Title	Nature of qualification as stated on diplomas	Abbreviations	
1	2	3	4	
AUSTRALIA				
New South Wales				
University of Sydney (c)	M.B., M. D. Ch. M., B.S.	Medicine and Surgery.	University of Sydney.	
South Australia				
University of Adelaide (a) (c).	M.B., B.S., M.D. M.S.	Do.	University of Adelaide.	
Victoria				
University of Melbourne	M. B., B.S., M.D., M.S.	Do.	University of Melbourne.	
BURMA				
University of Rangoon .	M.B., B.S.	Do.	University of Rangoon.	
CANADA				
Alberta				
College of Physicians and Surgeons of the Province of Alberta (b) University of Alberta (b).	Member M.D.	Do.	C. P. and S. Alta, University of Alberta.	
Manitoba				
College of Physicians and Surgeons of the Province of Manitoba (b)		Do.	C.P. and S. Manitoba.	
University of Manitoba (c)	M.D., M.D., C.M.	Do.	University of Manitoba.	

Table 60—contd.

1	2	3	4
<i>North-West Territories</i>			
College of Physicians and Surgeons of the Province of North-West Territories (b) (When held in conjunction with Licence of the College of Physicians and Surgeons of the Province of Saskatchewan or the Province of Alberta).	Member	Medicine and Surgery.	C.P. & S.N.W. Territories.
<i>Nova Scotia</i>			
Nova Scotia Provincial Medical Board (a) (c)	L.M.S.	Do.	Nova Scotia Provincial Medical Board.
Dalhousie University (a) (c)	M.D., C.M.	Do.	Dalhousie University.
<i>Prince Edward Island</i>			
Prince Edward Island Medical Council (b).	L.M.S.	Do.	Medical Council Prince Edward Island.
<i>Ceylon</i>			
Ceylon Medical College (a) (c)	L.M.S.	Do.	Ceylon Medical Council.
<i>Hong Kong</i>			
University of Hong Kong (a) (c).	M.B., B.S., M.D., M. S.	Do.	U. Hong Kong.
<i>Italy</i>			
All Royal Atalia Universities (d).	M.D.	Do.	..
<i>Japan</i>			
All Imperial Universities (e).	M.B. (Igakushi) M.D. (Igaku Hakushi).	Do.	..
Any Government or Prefectural special colleges designated by a Minister of Education of Japan (c).	M.B. (Igakushi).	Do.	..
<i>Malta</i>			
Royal University of Malta.	M.D.	Do.	U. Malta
<i>Newfoundland</i>			
Newfoundland Medical Board (b).	L.M.S.	..	Medicine and Nfld. M. Bd. Surgery.

Table 60—contd.

1	2	3	4
<i>New Zealand</i>			
University of New Zealand	M.B., Ch. B. Ch. M., M.D.	Medicine and Surgery.	U.N. Zealand.
<i>Pakistan</i>			
Punjab University	LM. S., M.D., M.B., M.S., M.B., B.S.	Do.	U. West Punjab.
Punjab State Medical Faculty (f).	L.M.S.	Licentiate in Medicine and Surgery.	L.M.S. Punjab.
<i>"Pondicherry"</i>			
Medical School, Pondicherry.	Medicine de L'Ecole de Pondicherry (Diploma)"		
UNION OF SOUTH AFRICA			
University of South Africa (b).	M.B., Ch.B.	Medicine and Surgery.	U.S. Africa.
University of Cape Town (a) (c)	M.B., Ch.B., M.D. Ch. M.	Do.	U. Cape Town.
University of the Witwatersrand Johannesburg (a) (c).	M.B., Ch.B. M.D., Ch.M.	Do.	U. Witwatersrand.
STRAITS SETTLEMENTS AND FEDERATED MALAYA STATES.			
The King Edward VII College of Medicine, Singapore (a) (c).	L.M.S.	Medicine and Surgery.	Singapore Med. College.

(a) The qualification must be included in Table (F) of the British Medical Register as published from time to time by the General Council of Medical Education and Registration of the United Kingdom.

(b) When granted on or before the 31st October, 1937.

(c) When granted on or before the 31st March, 1942.

(d) When granted on or before the 10th October, 1940.

(e) When granted on or before the 8th December, 1941.

(f) This qualification shall be a recognised one only when granted before the 15th August, 1947, provided the holders thereof had passed F.Sc. examination before taking up medical studies.

Table 61

Recognised Medical Qualifications granted by Medical Institutions not included in the first Schedule.

(Indian Medical council Act, 1956)

The third Schedule

(See Section 13)

Part I

Name of Medical Institution or Licensing authority	Recognised medical qualifications	Abbreviation
1	2	3
College of Physicians and Surgeons of Bombay.	Licentiate of the College of Physicians and Surgeons, Bombay.	L.C.P.S. (Bombay)
	*Fellowships of the College of Physicians and Surgeons, Bombay in Midwifery and Gynaecology, Ophthalmology, and Diplomas of the said College in Pathology, and Bacteriology, and Gynaecology and Obstetrics, and Child Health.	F.C.P.S. (Mid. & Gyn.) F.C.P.S. (Ophthl.) D.P.B. (Dip. in Path. & Bact.) D.G.O. (Dip. in Gyn. & Obst.) D.C.H. (Dip. in Child Health).
	*These qualifications shall be recognised qualifications under this Schedule only when they are held by persons holding any other medical qualifications specified in this Schedule	
State Medical Faculty, Bombay .	Licensed Medical Practitioner.	L.M.P. (Bombay).
State Medical Faculty of Bengal	*Licentiate of the Medical Faculty, Bengal.	L.M.F. (Bengal).
	*This qualification shall be a recognised medical qualification only when granted before the 15th August, 1947.	
State Medical Faculty of West Bengal.	Licentiate of the Medical Faculty, West Bengal.	L.M.F. (West Bengal)
	Licentiate in Medicine and Surgery (Nat.) (West Bengal).	L.M. & S. (Nat.) (West Bengal)
	Certificate of qualification by the State Medical Faculty under Article 6-C of the Statutes of the State Medical Faculty, West Bengal.	Certificate under Article 6-C (W.B.)
	Certificate and qualification by the State Medical Faculty under Article 6-D or 6-E of the Statutes of the State Medical Faculty, West Bengal.	Certificate under Article 6-D or 6-E (W. B.)

Table 61—contd.

1	2	3
Government of Bengal . . .	Licensed Medical Practitioner. (Campbell Medical School).	L.M.P. (Campbell Medical School).
Government of Bengal . . .	Diploma of Medical College (Bengal).	Dip. Med. Coll. (Bengal).
	*Licensed Medical Practitioner (Dacca Medical School).	L.M.P. (Dacca Medical School).
	*This qualification shall be a recognised medical qualification only when granted before the 15th August, 1947.	
State Medical Faculty of Uttar Pradesh.	Fellow of the State Medical Faculty (Uttar Pradesh).	F.S.M.F. (U.P.)
	Member of the State Medical Faculty.	M.S.
	Licentiate of the State Medical Faculty.	L.S.M.F. (U.P.).
State Board of Medical Examination, U. P.	Licensed Medical Practitioner .	L.M.P. (U.P.).
East Punjab State Medical Faculty.	Licentiate in Medicine and Surgery.	L.M.S. East Punjab.
	This qualification shall be a recognised one only when granted on or after the 15th August, 1947, to a person other than any person referred to in the entry relating to East Punjab State Medical Faculty in the First Schedule, provided he had passed the pre-medical examination.	
State Medical Faculty of Punjab	Fellow of the State Medical Faculty (Punjab).	F.S.M.F. (Punjab).
	Member of the State Medical Faculty (Punjab).	M.S.M.F. (Punjab).
	Licentiate of the State Medical Faculty.	L.S.M.F. (Punjab).
Government of Punjab . . .	Licensed Medical Practitioner (Lahore).	M.P.L. (Lahore).
	This shall be a recognised medical qualification only when granted before the 15th August, 1947.	
Hyderabad Government . . .	Licentiate in Medicine and Surgery (Osmania).	L.M. & S. (Osmania).
	Licensed Medical Practitioner (Hyderabad).	L.M.P. (Hyderabad).

Table 61—contd.

1	2	3
Government of Mysore . . .	Licensed Medical Practitioner (Mysore).	L.M.P. (Mysore).
Mysore Medical School . . .	Licensed Medical Practitioner (Mysore Medical School).	L.M.P. (Mysore Medical School).
Andhra University . . .	Licentiate in Medicine and Surgery (Andhra University).	L.M. & S. (Andhra University).
Assam Medical Examination Board.	Licensed Medical Practitioner (Assam).	L.M.P. (Assam).
	Licensed Medical Practitioner B.W. Medical School, Dibrugarh.	L.M.P. (B.W. Medical School, Dibrugarh).
Board of Examiners, Medical College, Madras.	Licensed Medical Practitioner, (Madras).	L.M.P. (Madras).
	Diploma in Medicine and Surgery.	D.M.S. (Madras.) Lic. Apoth. (Madras).
C.P. (or M.P.) Medical Examination Board.	Licensed Medical Practitioner (C.P. or M.P.)	L.M.P. (C.P. or M.P.).
Orissa Medical Examination Board.	Licensed Medical Practitioner (Orissa).	L.M.P. (Orissa).
Bihar and Orissa Medical Examination Board.	Licensed Medical Practitioner (Bihar and Orissa).	
	Licensed Medical Practitioner (Temple Medical School, Patna.)	L.M.P. (Temple Medical School, Patna).
King Edward Hospital Medical School, Indore.	Diploma or certificate in Medicine and/or Surgery.	Diploma or certificate in Medicine and/or Surgery.
Travancore University . . .	Ditto . . .	Ditto.
Rangoon University . . .	Licentiate in Medicine and Surgery.	L.M. & S. (Rangoon University.)
	This qualification shall be a recognised medical qualification only when granted before the 1st April, 1937.	
Burma Medical Examination Board.	Licensed Medical Practitioner.	L.M.P. (Burma).
	This qualification shall be a recognised medical qualification only when granted before the 1st April, 1937	
Aligarh University . . .	Diploma in Ophthalmology . . .	D.O. (Dip. in Ophthalmology) (Aligarh University.)
	This qualification shall be a recognised medical qualification under this Schedule only when held by persons holding any other medical qualification specified in this Schedule.	

Table 62

Recognised Medical qualifications granted by Medical Institutions outside India not included in the Second Schedule.

(Indian Medical Council Act, 1956)

The Third Schedule

Part II

M.D. (Berlin)

M.D. (Paris).

M.D. (Amsterdam).

M.D. (Freiburg, Germany).

M.D. (Vienna).

M.D. (Toronto, Canada).

M.D. (Heidelberg).

M.B.B.S. (Dacca).

M.D. (Bonn). (Specialist for Women's diseases and Obstetrics).

M B.,B.S. (Ceylon).

M.D. (Munich).

Licentiate diploma awarded by the Medico-Surgical College of Nova Goa.

Table 63

Statement showing the total number of seats and those reserved for candidates from other States in B. D. S. course in the Dental College during the year 1960

Name of Dental College	Total number of seats	No. of seats filled in All-India basis	No. of seats reserved for specified State	B.D.S./Pre-Professional	Method of selection except for seats reserved for Jammu and Kashmir	Remarks
1	2	3	4	5	6	7
1. Sir C. E. M. Dental College, Bombay.	50	7	1 (Jammu and Kashmir)	B.D.S.	Selection is made by authorities.	Session starts in June.
2. Nair Hospital Dental College, Bombay.	62	..	2 (Jammu and Kashmir)	B.D.S.	Selection is made by authorities.	Session starts in June
3. Dental Wing of the King George's Medical College, Lucknow.	40	10 (for States including Territories where there are no Dental College)	1 (Jammu and Kashmir)	B.D.S.	Selection is made by authorities.	+
4. Dental College, Amritsar	30	2	2 (Jammu and Kashmir) 1 (Union Territories)	B.D.S.	Selection is made by authorities.	Session starts on 1st September.
5. Dental College, Patiala	12	..	2 (Jammu and Kashmir)	B.D.S.	Selection is made by authorities.	Session starts on 1st September.
6. Calcutta Dental College, Calcutta.	40	10	..	Both	Selection is made after interview before a special Selection Committee appointed by the Government of West Bengal.	Session starts in August.

Table 63—contd.

	1	2	3	4	5	6	7
7. Dental Wing of the Madras Medical College, Madras.		30	2	1 (Jammu and Kashmir)	Pre-professional	Selection is made by the Selection Committee appointed by the Government of Madras.	Session starts in July.
8. Dental Wing of the Medical College, Trivandrum.		30	13	2 (Jammu and Kashmir)	B.D.S.	Selection is made by College authorities.	Session starts in August.
9. Dental Wing of the Osmania Medical College, Hyderabad.		32	5	2 (Jammu and Kashmir)	Pre-professional	Selection is made by a Selection Committee appointed by the Government of Andhra Pradesh.	Session starts in July.
10. Bangalore Dental College, Bangalore.		20	2	..	Pre-professional	Selection is made by the College authorities.	Session starts in August.
11. Patna Dental College and Hospital, Patna.		10	..	..	B.D.S.	On merit	Seats reserved : (i) 1 for girl. (ii) 1 for Scheduled Castes/Tribes. (iii) 1 for Backward Class. (iv) Session starts on 17th July every year.

NOTE.—+Information not available.
..Nil information.

Table 64

Statement showing the number of dental clinics, mobile dental clinics and the dentists employed in each State during the year 1960-61

States/Union Territories	Number of dental clinics existing during the year 1960-61	Number of mobile dental clinics existing during the year 1960-61	Number of dentists employed
1. Andhra Pradesh	+	+	+
2. Assam	+	+	+
3. Bihar	+	+	+
4. Gujarat	+	+	+
5. Jammu and Kashmir	+	..	10
6. Kerala	9	..	10
7. Madhya Pradesh	13	..	16
8. Madras	20	..	35
9. Maharashtra	+	+	+
10. Mysore	8	..	+
11. Orissa	5	..	6
12. Punjab	19	..	43
13. Rajasthan	21	..	23
14. Uttar Pradesh	8	..	8
15. West Bengal	+	+	+
16. Andaman and Nicobar Islands	1	..	1
17. Himachal Pradesh	10	..	9
18. Manipur	1	..	5
19. Nagaland . . . . .	..	..	..
20. Railways	54	+	+
21. Central Government	+	+	+
TOTAL	169	..	166

NOTE.—+Information not available.
..Nil information.

Table 65

Statement showing information regarding the sale and manufacturing licences issued to the various States of the Indian Union during and upto 1960-61

States/Union Territories	No. of licences issued during the year 1960		Total No. of drugs licences issued from the beginning of the enforcement of the drugs Act upto the end of 31-3-1961										No. of drugs manufacturers holding manufacturing licences in the State on 31-3-61		No. of dealers in drugs holding sale licences under the D.A. on 31-3-1961		Remarks
	Sale Licences		Manufacturing licences		Fresh on forms 20/20A 20B 21A/21B/21	Fresh on forms 25/25A 28	Re-newal on forms 26/26A	Fresh Forms 20/20A 20B 21/21A 21B	Re-newal on forms 20/20A 20B 21/21A 21B	Fresh on forms 25/25A 28	Re-newal on forms 26/26A	For biological products	For non-biological products	Retail	Wholesale	Total	
	Fresh on forms 20/20A 20B 21/21A 21B	Re-newal on forms 20/20A 20B 21A/21B/21	Fresh on forms 25/25A 28	Re-newal on forms 26/26A													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
1. Andhra Pradesh	.	.	.	54	8	†	†	†	†	26	36	5,483	987	6,470			
2. Assam	.	.	.	1	..	3,439	17,460	1	8	1	4	2,459	193	2,652			
3. Bihar	.	.	.	3	9	5,703	5,213	46	18	8	25	..	..	..
4. Gujarat	.	.	.	31	..	..	..	..	93	13	35	2,018	462	2,480	
5. Kerala	.	.	.	5	14	1,086	2,131	65	69	69	32	1,073	247	1,143	Certain firms are possessing both retail & wholesale licences.		
6. Madhya Pradesh	.	.	.	7	4	2,287	1,115	53	4	..	53	1,871	269	2,140			
7. Madras	.	.	.	61	61	38,077	..	374	426	45	173	4,105	1,497	5,702			
8. Maharashtra	.	.	.	246	235	17,355	14,972	2,306	1,652	266	531	5,092	3,547	7,055	1584 firms are in possession of both retail & wholesale licences.		
9. Mysore	.	.	.	1	2	2,142	2,908	65	14	4	21	797	135	1,263	*331 firms are in possession of both retail & wholesale licences.		

*14
firms are in
possession of both
the licences for
biological & non-
biological.

10. Orissa	.	.	.	.	399	422	2	1	2,860	2,683	13	1	4	6	1,095	619	1,714
11. Punjab	.	.	.	.	817	1,825	18	30	13,991	14,398	147	153	8	82	8,954	1,097	10,051
12. Rajasthan	.	.	.	.	1,834	253	34	..	2,982	212	36	..	105	127	1,884	231	1,817
Certain firms are possessing both retail and whole-sale licences.																	
13. West Bengal	.	.	.	.	494	1,190	28	25	20,142	21,745	1,118	1,088	177	427	17,529	1,975	19,504
14. Delhi	.	.	.	.	281	784	18	14	5,776	6,755	209	146	6	55	..	..	2,590
Separate figures for retail and whole-sale are not available.																	
15. Himachal Pradesh	.	.	.	.	41	82	1	..	108	118	..	..	..	1	96	67	163
16. Manipur	.	.	.	.	2	5	..	..	22	..	..	..	..	..	22	..	22
17. Tripura	.	.	.	.	..	..	..	..	..	..	..	..	..	..	..	..	..

Note.—..Nil information.

† Information not available.

Table 66

Statements showing the details of samples tested in the various States during the year 1960-61

States/Union Territories	No. of samples brought forward from the previous years	No. of samples sent for test and analysis	Particulars of Samples sent for analysis during the year							
			Vitamins	Hormones	Antibiotics	Insulins	Biological products	Chemotherapeutic drug	Galenicals	Others
1	2	3	4	5	6	7	8	9	10	11
1. Andhra Pradesh	..	..	..	..	..	..	..	..	..	..
2. Assam	..	..	..	..	..	..	..	..	..	..
3. Bihar	..	181	..	..	..	..	..	..	..	..
4. Gujarat	81	982	355	10	43	2	9	15	92	456
5. Kerala	..	27	1	1	8	1	..	5	4	7
6. Madhya Pradesh	172	88	27	..	5	5	3	9	32	7
7. Madras	116	289	60	..	7	..	7	2	16	197
8. Maharashtra	1,339	1,038	191	26	73	10	27	39	26	646
9. Mysore	5	337	114	7	17	6	5	23	22	143
10. Orissa	..	9	4	..	1	..	2	..	..	2
11. Punjab	34	1,350	206	6	13	..	34	24	845	222
12. Rajasthan	..	84	1	..	..	..	..	..	..	83
13. Uttar Pradesh	227	798	60	1	12	..	5	291	114	315
14. West Bengal	..	75	18	2	1	..	14	7	2	31
15. Delhi	52	337	62	2	15	2	7	34	43	212
16. Himachal Pradesh	..	..	..	..	..	..	..	..	..	..
17. Manipur	..	1	..	..	..	..	..	..	..	1
18. Tripura	..	..	..	..	..	..	..	..	..	..

Table 66—contd.

States/Union Territories	No. of samples found sub-standard	Particulars of samples declared sub-standard										No. of Sam- ples re- jected	No. of sam- ples pend- ing with Analysts
		Vita- mins	Hor- mones	Anti- biotics	In- sulin	Biolo- gical Products	Chemo- thera- peutic	Gale- nicals	Others drugs				
1	21	22	23	24	25	26	27	28	29	30	31		
1. Andhra Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..
2. Assam	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Bihar	23	..	..	..	..	..	..	..	..	..	..	151	..
4. Gujarat.	204	94	..	2	..	1	..	28	78	4	..	381	..
5. Kerala	4	..	..	..	..	..	1	..	3	..	..	15	..
6. Madhya Pradesh*	72	20	..	1	..	2	1	26	22	5	..	44	..
7. Madras.	27	3	..	..	..	1	..	7	16	1	..	227	..
8. Maharashtra	421	185	3	5	..	1	8	10	209	19	..	507	..
9. Mysore	22	10	..	1	..	..	..	3	8	1	..	249	..
10. Orissa	2	2	..	..	..	..	..	..	..	..	..	..	..
11. Punjab	103	51	..	..	..	9	6	28	9	..	..	157	..
12. Rajasthan	3	..	..	..	..	..	..	..	3	1	..	2	..
13. Uttar Pradesh	78	8	..	..	..	2	36	9	23	115	..	102	..
14. West Bengal	16	4	..	..	..	4	1	..	7	..	..	16	..
15. Delhi	66	6	1	2	..	..	6	17	34	..	..	127	..
16. Himachal Pradesh	..	..	..	..	..	..	..	..	..	..	..	..	..
17. Manipur	..	..	..	..	..	..	..	..	..	..	..	..	..
18. Tripura	..	..	..	..	..	..	..	..	..	..	..	..	..

NOTE.—*7 samples reported to be misbranded.

..Nil information.

Table 67

Statement showing the number of prosecutions launched under the Drugs Act for other contravention during the year 1960-61

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States/Union Territories	No. of prosecutions pending from the previous year	No. of prosecutions launched during the year	No. of prosecutions decided during the year	Results of the prosecution decided					Acquit- tals	Pending	Remarks, if any
				Con- victions (Imprison- ment)	Penalties	7	8	9			
1	2	3	4	5	6	7	8	9			
1. Andhra Pradesh	District Magistrates are being reminded for expedition of the disposal of the cases.
2. Assam	.	.	10	.	in 1 case Rs. 60	.	.	.	.	.
3. Bihar	
4. Gujarat	.	.	10	16	in 9 cases Rs. 930	7	4				
5. Kerala	.	.	1	1	in 1 case Rs. 200	.	.				
6. Madhya Pradesh	.	.	54	42	in 32 cases Rs. 728	.	37	In 10 cases neither penalty nor imprisonment but other decisions were taken.			
7. Madras	.	.	24	21	in 20 cases Rs. 7,030	1	5				

Table 67—contd.

1	2	3	4	5	6	7	8	9
8. Maharashtra	54	29	24	.. in 19 cases	Rs. 10,305	5	59	Amount of penalty includes 15 cases of Spurious Drugs.
9. Mysore	..	3	1	.. in 1 case	Rs. 50	..	2	
10. Orissa	2	..	..	..	..	..	2	
11. Punjab	22	42	44	.. in 40 cases	Rs. 3,880	4	20	
12. Rajasthan	..	15	11	.. in 7 cases	..	4	4	Amount of penalty not furnished.
13. Uttar Pradesh	59	44	49	3 in 32 cases	Rs. 3,280	14	54	
14. West Bengal	2	..	2	1 in 1 case	Rs. 1,700	..	..
15. Delhi	7	20	.. 21	.. 1* in 6 cases	Rs. 6,950	.. 15	.. 6	*Besides, fine was also imposed.
16. Himachal Pradesh	4	5	3	4 in 1 case	Rs. 25	2	6	
17. Manipur	..	1	1	.. in 1 case	Rs. 30	..	..
18. Tripura	..	..	..	..	..	..	..

NOTE.—.. Nil information.

Table 68

Statement showing the number of prosecutions launched under the Drugs Act for the sale and manufacture of spurious drugs during the year 1960-61

States/Union Territories	No. of prosecutions pending from the previous year	No. of prosecutions launched during the year	No. of prosecutions decided during the year	Results of the prosecution decided			Acquittals	Pending	Remarks, if any
				Convictions (Imprisonments)	Penalties				
1. Andhra Pradesh	..	..	..	..	..	..	..	..
2. Assam	..	..	..	..	..	..	..	..
3. Bihar	..	..	..	..	..	..	..	..
4. Gujarat	1	1	2	1	..	1	..	..
5. Kerala	..	1	1	..	in 1 case Rs. 200	..	..	..
6. Madhya Pradesh	..	3	3	..	in 3 cases Rs. 225	..	..	..
7. Madras	..	3	3	..	in 3 cases Rs. 260	..	..	..
8. Maharashtra	28	6	21	..	in 15 cases	2	13	4 cases were discharged.	Amount of penalty not separately furnished.
9. Mysore	1	..	..	..	..	..	1	..	
10. Orissa	..	..	..	..	..	..	..	..
11. Punjab	..	..	..	..	..	..	..	..
12. Rajasthan	..	..	..	..	..	..	..	..
13. Uttar Pradesh	..	..	..	..	..	..	..	..
14. West Bengal	2	2	3	..	in 3 cases Rs. 3,200	..	1	..	
15. Delhi	9	..	9	..	in 1 case Rs. 1,000	3	..	..	In 2 cases accused died and 3 cases accused not traceable.
16. Himachal Pradesh	..	..	..	..	..	..	..	..
17. Manipur	..	..	..	..	..	..	..	..
18. Tripura	..	..	..	..	..	..	..	..

NOTE.—.. Nil information.

Table 69

Statement showing the statistics of the work done by Chemical Analysers, Chemical Examiners and the Serologist to the Government of India, Calcutta during the year 1960

MEDICO—LEGAL INVESTIGATIONS

Description	Human poisoning		Animal poisoning		Stains		Miscellaneous		Total		General analysis & other work	
	Cases	Articles	Cases	Articles	Cases	Articles	Cases	Articles	Cases	Articles	Cases	Articles
1. Director-Cum-Sr. Chemical Examiner, F. S. Laboratory, Medical College Hospital, Calcutta-12	..	980	..	96	..	7,232	..	2,472	..	10,780	..	3,681
2. Chemical Examiner, Punjab, Patiala	827	2,624	15	55	954	4,133	468	736	2,264	7,548	10,907	15,104
3. Chemical Examiner to the Governments of U.P. and M.P., Agra	504	1,373	36	68	2,520	12,307	26	86	3,086	13,834	1,444	5,130
4. Director, F. S. Laboratory & Chemical Analyser to State of Maharashtra, Bombay	3,299	5,266	75	323	1,814	12,595	452	1,117	5,640	19,301	66,570	79,744
5. Director, F. S. Laboratory & Chemical Analyser to State of Gujarat, Junagadh	241	407	8	8	381	2,605	15	22	645	3,042	..	6,265
6. Director, State F. S. Laboratory & C.E. to the Government of Madras	2,074	7,474	34	255	810	4,919	176	1,066	3,094	13,684	69	69
7. Chemical Examiner, Jammu and Kashmir	158	360	10	25	44	145	1	1	213	531	676	676

8. Chemical Examiner, Mysore State, Bangalore	*632	*2,502	..	..	614	4,247	263	435	1,509	7,184	3,383	4,978
9. Chemical Examiner, Rajasthan, Jaipur	342	701	1	1	406	2,680	119	256	868	3,638	..	..
10. Chemical Examiner, Andhra Pra- desh	608	2,655	44	208	833	5,701	56	271	1,541	8,835	..	3
11. Director, Central Forensic Science Laboratory, Calcutta-14	21	45	2	4	307	1,516	44	115	374	1,680	92	227
12. Serologist & Chemical Examiner to the Govt. of India, Calcutta . . . . .	..	..	..	..	9,511 (a)	48,220 (a)	..	..	..	5,542 (b)	8,708 (c)	32,301 (b)

NOTE.—*Includes animal poisoning also.

(a) Includes 222 cases with 325 articles from the Government of Union of Burma.

(b) Detection of blood and semen groups from stains from Medico-legal purposes.

(c) 4445—WR, 4262—VDRL; and 1—Kahn.

..Nil information.

Table 70

Statement showing the statistics of the work done by Health Organisations at major Seaports in India during the year 1960

Particulars of work done	Bombay	Calcutta	Madras	Cochin	Visakha- patnam	Kandla	Total
I. Incoming Vessels							
1. No. of ships inspected	239	24	68	55	18	21	425
2. No. of crews medically examined	22,340	1,215	5,142	2,845	826	..	32,368
3. No. of passengers medically examined	39,156	1	11,456	123	..	..	50,736
4. No. of ships arriving from yellow fever areas inspected	174	6	52	44	15	17	308
5. No. of members of crew inspected	14,524	378	3,081	2,228	104	918	21,233
6. No. of passengers inspected	28,653	..	28	103	..	17	28,801
7. Infectious diseases cases detected on vessels	30	6	11	1	2	..	50
II. Out-going Vessels							
1. No. of ships medically inspected	1,498	1,323	437	683	220	174	4,335
2. No. of passengers medically examined	92,179	14,753	29,384	7,865	12	51	144,244
3. No. of crews medically examined	69,078	63,887	25,001	36,248	12,330	8,425	214,969
4. No. of ships inspected for laskar provision	408	565	41	32	31	12	1,089
5. No. of ships inspected for medical stores on board	20	83	41	..	1	..	145
6. No. of ships given medical advice on high seas	13	2	16	1	..	..	32
7. No. of ships fumigated	16	33	..	..	..	..	49
8. No. of ships issued with D. E. C.	144	166	16	18	9	..	353
9. No. of ships issued with permits	15	13	20	7	2	..	57
10. No. of pilgrim ships inspected	14	14	28
11. No. of pilgrims inspected	19,397	10,399	29,796

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Table 71

Statement showing particulars of aircraft medically inspected which arrived from and left for foreign countries from International Airports in India during 1960

Particulars of the work done	Bombay (Santa- cruz)	Calcutta (Dum Dum)	Madras	Tiruchira- palli	Delhi (Palam)	Amritsar	Total
I. Inward Traffic							
1. No. of aircrafts medically inspected.	2,304	3,556	759	419	2,018	127	9,183
2. No. of passengers medically inspected	102,906	114,234	17,144	4,580	53,939	1,153	293,956
3. No. of crews medically examined	19,294	29,036	3,996	1,237	16,175	464	70,202
4. No. of aircrafts disinfected	1,012	120	16	..	527	..	1,675
5. No. of passengers quarantined in the Y. F. I. Hospital for being at risk to yellow fever.	180	13	6	..	6	..	205
II. Dispensaries							
No. of patients treated	29,642	20,905	..	..	..	..	50,547

NOTE.—.. Nil information.

Table 72

Statement showing the statistics of the seamen examined at various major seaports in India and seamen treated at the Seamen's Clinics, Bombay and Calcutta during the year 1960

Particulars of the work done	Bombay	Calcutta	Madras	Cochin	Visakha- patnam	Total
1. No. of seamen examined	11,508	7,496	567	286	73	19,930
2. No. of seamen declared fit	7,139	6,972	441	273	70	14,895
3. No. of seamen declared temporary unfit	4,231	494	103	13		4,844
4. No. of seamen declared permanently unfit	138	30	23	..	..	191
<i>Seamen's Clinics</i>						
Seamen treated as out-patients	11,621	14,804	..	..	..	26,425
(i) New Cases	2,638	1,744	..	..	..	4,382
(ii) Old Cases	8,983	13,060	..	..	..	22,043
Seamen treated as in-patients	194	..	..	..	..	194

..Nil information.

Table 73

Statement showing details of samples received for test and analysed at the Central Drugs Laboratory, Calcutta during the year 1960—61

Description	Samples received from					Medical Stores Depots		Total		
	State Drugs Inspectors	Drugs Controller, India and Misc.	A.D.Cs.I, Customs Officers at ports	Law Courts				Received	Tested	Standard
I. Samples received and Tested										
(i) No. of samples received	1,179	37	697	1	1,683	3,597	..	..	..	455
(ii) No. of samples tested	853	37	705	2	1,539*	..	3,136	..	..	..
(iii) No. of samples found standard	600	26	628	1	1,440	..	..	..	2,695	..
II. Analysis by various Departments										
(i) Pharmaceutical Chemistry	665	31	564	1	..	1,261	1,038	914	..	..
(ii) Biochemistry	542	63	78	..	266**	949	772	689	..	..
(iii) Pharmacology	128	12	54	..	356**	550	420	378	..	..
(iv) Bacteriology	537	35	201	..	783*	1,556	1,493	1,325	..	..
(v) Pharmacognosy	101	..	12	..	72**	185	176	146	..	..

NOTES—*Technical help rendered by Central Drugs Laboratory staff.
 **Exclusively analysed by Central Drugs Laboratory staff.
 .. Nil information.

Table 74

Statement showing the quantity of sera/vaccine manufactured and supplied etc. during the year 1960.

I. *Quality of sera and vaccine manufactured during 1960*

Anti-cholera Vaccine	31,55,751 c.c.
T. A. B. Vaccine	9,65,421 c.c.
Antirabic Vaccine (Human)	36,11,496 c.c.
Antirabic Vaccine (Animal)	86,335 c.c.
Antirabic Vaccine (Dog)	22,145 c.c.
Curative Vaccines	2,075 doses
Antivenom Serum	15,992 tubes of 10 c.c. each.
Diphtheria Antitoxin	1,580 tubes of 1,0000 units each.
Normal Horse serum	558 tubes of 20 c.c. each.
Antirabic Serum . . . . .	..
Tetanus Antitoxin	3,951 tubes of 1,500 units each.
Tetanus Toxoid	35,690 c.c.
High Titre Sera	849 c.c.
Antisheep Haemolytic Serum	237 c.c.

I. *Quantity of vaccine and Sera supplied during 1960*

Anti-cholera Vaccine.	30,51,832 c.c.
T. A. B. Vaccine	10,11,305 c.c.
Antirabic Vaccine (Human)	36,25,777 c.c.
Antirabic Vaccine (Animal)	89,055 c.c.
Antirabic Vaccine (Dog)	23,330 c.c.
Curative Vaccines	2,075 doses.
Antivenom Serum	17,415 tubes of 10 c.c. each.
Diphtheria Antitoxin	2,087 tubes of 10,000 units each.
Normal Horse Serum	385 tubes of 20 c.c. each.
Antirabic Serum	46 tubes of 10 c.c. each.
Tetanus Antitoxin	3,949 tubes of 1,500 units each.
Tetanus Toxoid	35,290 c.c.
High Titre Sera	849 c.c.
Antisheep Haemolytic Serum	237 c.c.

III. *Number of bacteriological examinations done during 1960*

Urine for chemical and microscopical examination	5
Wassermann test	7
Sputum	5
	<hr/>
TOTAL	17
	<hr/>

IV. *Number of other samples tested and examination done during 1960.*

Penicillin	63
Catgut	95
Tetanus Antitoxin	103
Diphtheria Antitoxin	15
Cholera Vaccine	7
Mixed strepto-staphylococcus Vaccine	1
Triple Antigen	1
	<hr/>
TOTAL	285
	<hr/>

Table 75

Statement showing the number of Ayurvedic Institutions and number of Ayurvedic Hospitals and Dispensaries in India during the year 1960.

States/Union Territories										Institutions	Hospitals and Dis- pensaries
1. Andhra Pradesh	.	.	.	.	.	.	.	.	.	4	581
2. Assam	.	.	.	.	.	.	.	.	.	1	47
3. Bihar	.	.	.	.	.	.	.	.	.	4	374
4. Gujarat	.	.	.	.	.	.	.	.	.	7	355
5. Jammu and Kashmir	.	.	.	.	.	.	.	.	.	+	216
6. Kerala	.	.	.	.	.	.	.	.	.	2	563
7. Madhya Pradesh	.	.	.	.	.	.	.	.	.	4	725
8. Madras	.	.	.	.	.	.	.	.	.	1	119
9. Maharashtra	.	.	.	.	.	.	.	.	.	15	404
10. Mysore	.	.	.	.	.	.	.	.	.	14	562
11. Orissa	.	.	.	.	.	.	.	.	.	1	107
12. Punjab	.	.	.	.	.	.	.	.	.	4*	382
13. Rajasthan	.	.	.	.	.	.	.	.	.	7	1,209
14. Uttar Pradesh	.	.	.	.	.	.	.	.	.	18	825
15. West Bengal	.	.	.	.	.	.	.	.	.	3	+
16. Delhi	.	.	.	.	.	.	.	.	.	2	+
TOTAL										87	6,469

NOTE:— + Information not available.

*One institution is not recognised in this State.

Table 76

*The Rockefeller Foundation Fellowships/Travel Grants-India (1960)**I. Fellowships*

Subject	Place of study
1. Plant Biochemistry Tissue Culture .	Department of Agricultural Chemistry, Waite Agriculture Institute, University of Adelaide, Australia.
2. Clinical and Experimental Neurology	Harvard Medical School and National Institute of Neurological Disease and Blindness.
3. Medicinal Chemistry . . .	Harvard University.
4. Thoracic and Cardio-vascular Surgery .	Mayo Clinic, University of Minnesota and University of Colorado.
5. Respiratory Physiology . . .	Pulmonary Function Laboratory, University of Utah.

II. Travel Grants

Name and Designation	Purpose
1. Dr. S. S. Anand, Principal and Professor of Surgery, Government Medical College, Amritsar.	To observe recent developments in medical education in U.K., Canada and the U.S.A.
2. Dr. S. V. Joglekar, Dean, Seth G. S. Medical College, Bombay.	To observe methods of medical education in Europe, Canada and the U.S.A.
3. Dr. A. F. Desmond, Lecturer, Otorhinolaryngology, Christian Medical College and Hospital, Vellore.	To observe new procedures in the field of Otolaryngology and methods of medical education in the U.S.A.
4. Dr. P. N. Chhuttani, Professor of Clinical Medicine, Government Medical College, Amritsar.	To observe gastroenterological research at Medical Centres in the U. S. A.

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